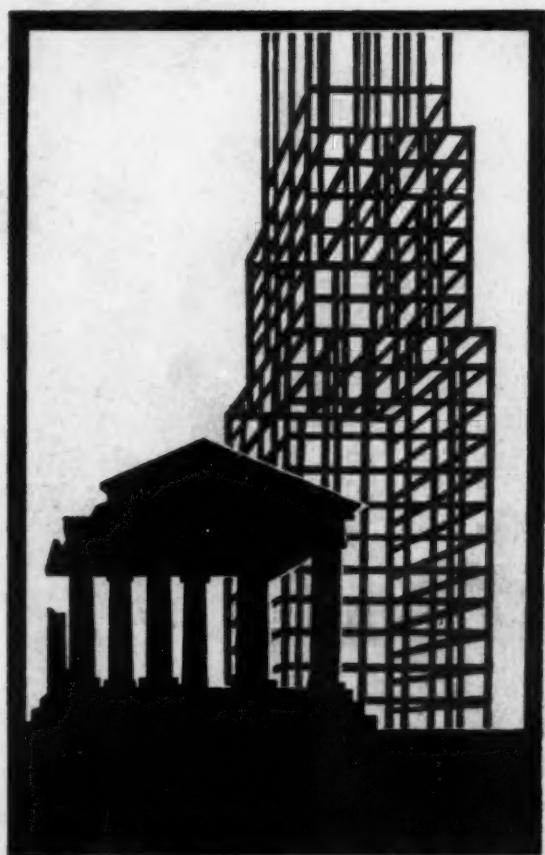


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A. LAWRENCE KOCHER, *Managing Editor*

K. LÖNBERG-HOLM

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FEATURED IN THIS ISSUE •

WEEK-END HOUSE BY KARL MEINHARDT, ARCHITECT

THE WEEK-END HOUSE Pages 177-192

The week-end house is more than a sentimental stage setting. In addition to giving specific data to the architect who is occasionally called on to do this type of work, this Technical News and Research article suggests the possibility of further experimentation for the development of a dwelling which will be within the reach of the average wage earner.

HOW SMALL A HOUSE —OR APARTMENT? Pages 131-137

The MINIMAL HOUSE solution by Le Corbusier and P. Jeanneret shows an amplification of the typical kitchenette apartment layout. The plan, it will be observed, is based on the principle of double-utilization of rooms, both by day and by night—which also distinguishes the "efficiency" apartment. In most apartments little consideration is given to children. In the MINIMAL HOUSE accommodations are provided for as many as four children in each family. For these reasons it is felt that this particular scheme offers a special interest to those architects engaged in apartment house planning who are seeking to conserve floor area.

TERMINALS? • TRANSFERS Pages 99-106

An airport like any other link in the modern network of transportation, should be designed not as a terminus but as a transfer, according to Richard J. Neutra, architect. With plans and a model he illustrates his point that on leaving the planes both travelers and freight should be easily, rapidly and inexpensively directed into the other transportation lines of the regional traffic system. The article is supplemented by views of the airport at Hamburg, Germany, showing this relationship of air transportation with other modes of travel.

ARCHITECTS' OFFICES Pages 140-158

In his own office layout the architect designs and plans to please himself. What he thus evolves becomes for his clientele an example of his architectural ability—in effect, an advertisement. For suggestions in arrangement and equipment this portfolio has been prepared for architects who are revamping their offices or considering new quarters.

A PREVIEW ● SEPTEMBER ISSUE



RESTAURANT IN LOS ANGELES, J. R. DAVIDSON, DESIGNER

TECHNICAL NEWS AND RESEARCH

● RESTAURANTS COFFEE SHOPS CAFETERIAS

The subject of coffee and tea shops is highly specialized and technical. It is almost impossible to formulate rules for planning and designing restaurants. Every job is different—not superficially, but fundamentally—in that the patrons, the location, the size and shape, the type of eating place, and so forth, are all factors of utmost importance, and without consideration of which no scheme can be successful.

The first part of the article is therefore a general treatment of the problems confronting the architect, giving many helpful hints on subjects hitherto untouched. In the second part of the article the investigators outline as a summary the more technical requirements of the kitchen and equipment.

Feeling that it is the architect's duty to follow the trend of development in the types of buildings he designs, the writers have noted the recent popularity of the light lunch counter, sighting its disadvantages as well as its advantages. The restaurant service in the Pennsylvania Railroad Station in New York City is a striking example of what the public wants. The waiter-service restaurant on the south side is almost always empty while the counter service on the north, a few steps away, is always busy.

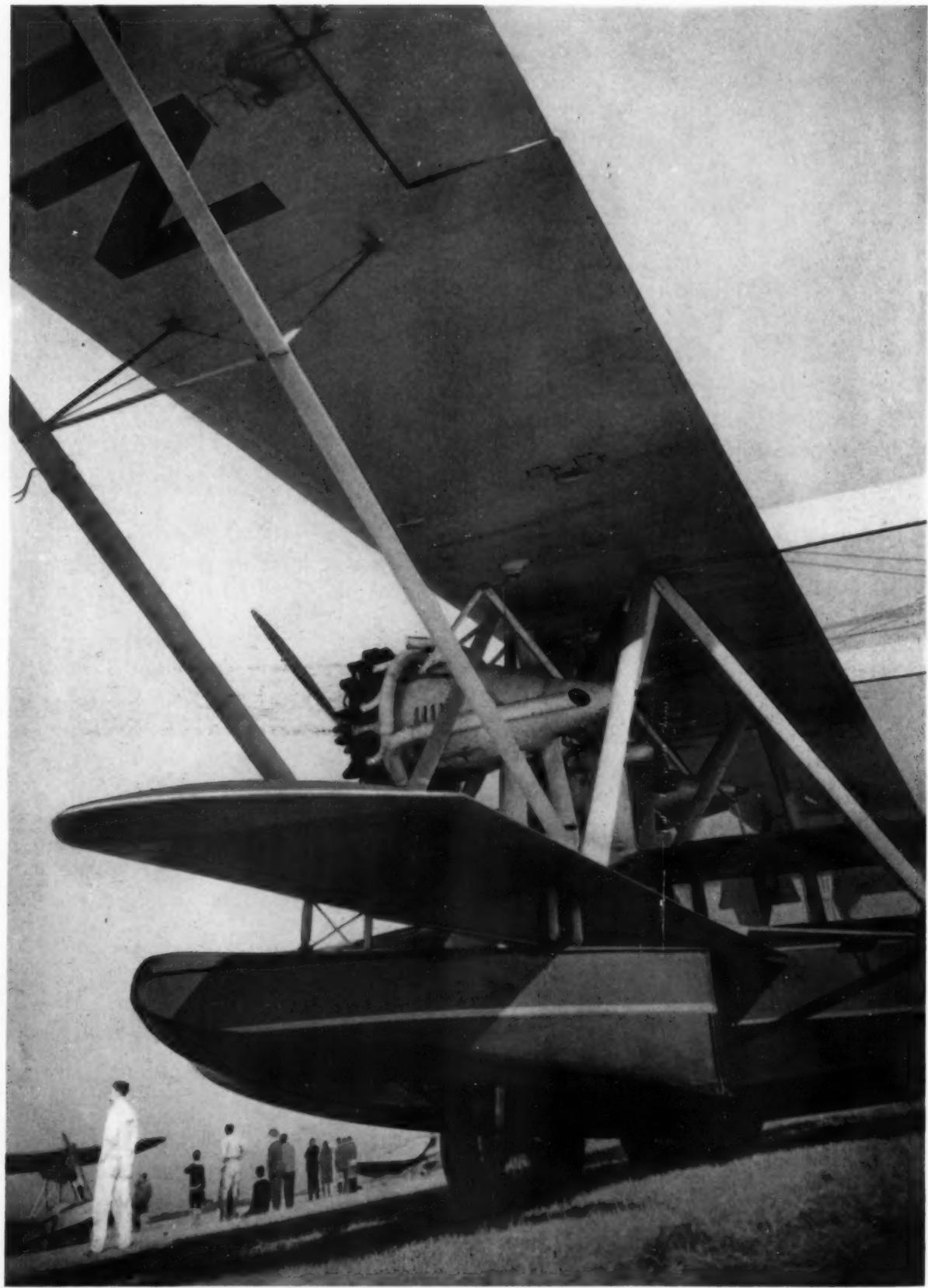
Supplementing this study will be a PORTFOLIO of illustrations of cafeterias and restaurants.

WHAT METALS TO USE?

What are stainless steel, Allegheny metal, duralumin, Monel metal, white metal, and all the other new building materials coming into increasing use? A comparative table of facts concerning these has been prepared by the Research Division of the Record for use by architects.

A LEVIATHAN OF THE AIR

Under the wing of a giant Sikorsky twin-motored amphibian at the Long Island Aviation Country Club. This country club at Hicksville, N. Y., has its own clubhouse, hangar and flying field.



Photo, Ewing Galloway, N. Y.

THE ARCHITECTURAL RECORD

AN ILLUSTRATED MONTHLY MAGAZINE OF
ARCHITECTURE & THE ALLIED
ARTS & CRAFTS



VOLUME 68

AUGUST 1930

NUMBER 2

TERMINALS?—TRANSFER!

BY RICHARD J. NEUTRA, ARCHITECT

Continuity must be considered the primary characteristic of traffic flow. Traffic consists in the movement of goods and persons. Changes of the vehicle are necessitated as the channel and speed of its flow are conditioned by geography and the density of interferences. But smooth continuity remains the principal requirement.

Traffic was once thought of as only *interurban*. A trip was terminated when the carriage arrived at its destination. The effort to reach a certain house or locality within that town was negligible. A modern community, in particular a metropolitan area, does not have a city wall or gate and it offers a difficult and specific traffic problem within because of its vast expansion. For the modern traveller, a long distance trip has to bring him not to an ultimate destination but to a link within a well arranged regional transportation system.

The idea of the nineteenth century was to recognize and acknowledge the railroad terminals as the new *city gates*. They accordingly were treated as architecture somewhat in the spirit of Sanmicheli. In the older capitals a plaza of representative character was also usually attempted in front of the depot, which made it pretty hard to articulate surface traffic lanes and frequently necessitated much walking and

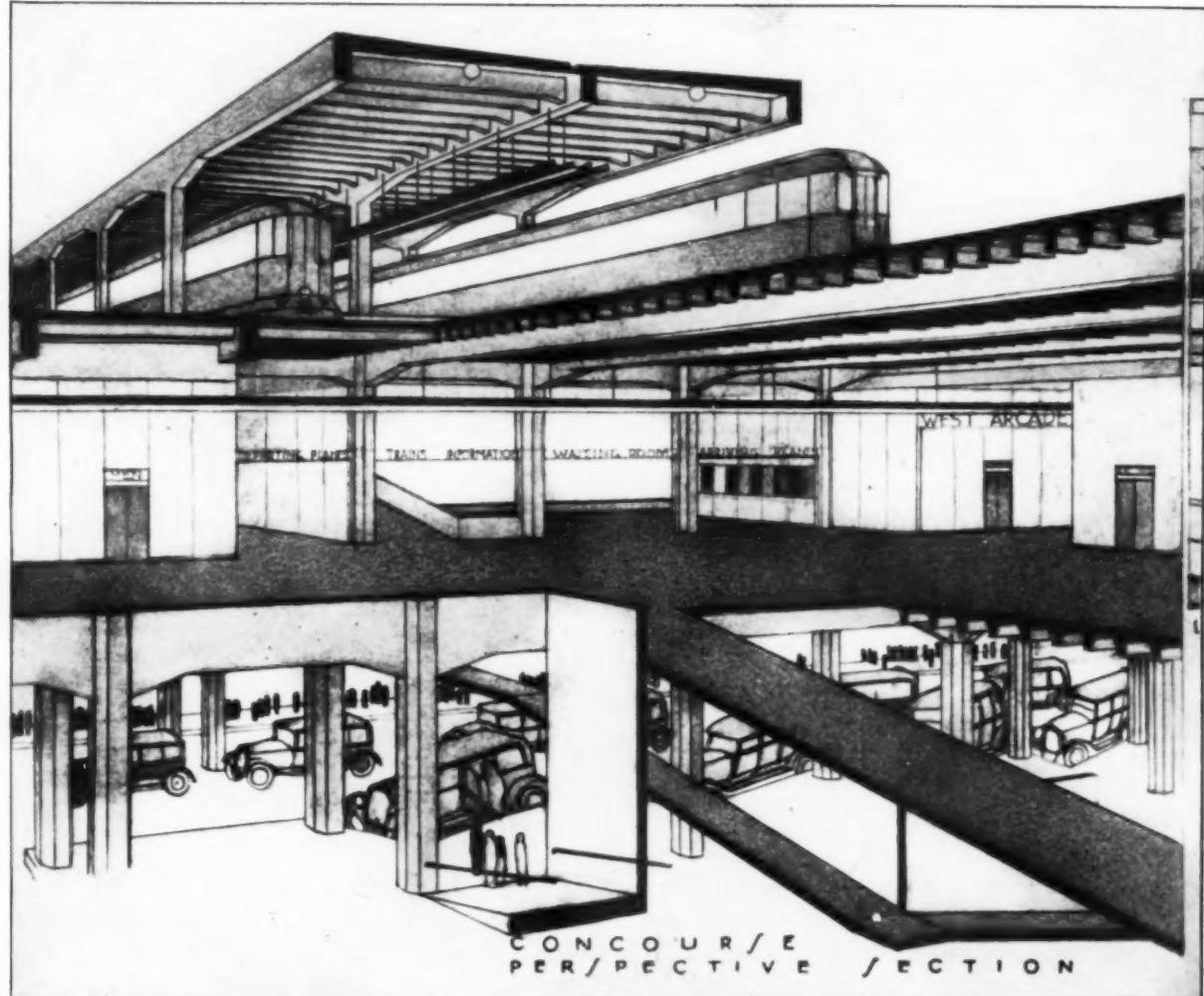
carrying of hand baggage from street car stops which were kept on the outside of this plaza.

The idea of the railroad depot as the new kind of a city gate, despite sacrificial money investments, proved a failure in Europe. It was a romantic transposition of an old concept into a set of new and hostile conditions. Very similarly one will find that in modern seaports the pier, the landing point of oceanliners, has not developed monumentally.

Terminals, representatively dressed up or plain, are altogether out of date.* The terminal idea is too much opposed to the necessary continuity of traffic flow. Through stations, junctions and beltlines are more adequate for the requirements of a modern region. The rapid transit and rolling surface traffic has to be brought side by side with the long distance tracks so that any monumental treatment crowded in between means only an undesirable obstacle.

With air transportation a new type of transfer point appears in the network of a regional traffic system: the so-called *airport*. Here similar mistakes are imminent and threatening early obsolescence of am-

* Neutra, *Wie Baut Amerika*. Jul. Hoffmann, Stuttgart. (pp. 7-12)



RUSH CITY AIR TRANSFER
Section through railway, grand concourse,
and baggage room levels.

RICHARD J. NEUTRA, ARCHITECT, COLLABORATING
WITH GREGORY AIN, DONALD GIFFEN, HAR-
WELL H. HARRIS, AND RAGNHILDE LILJEDAHL

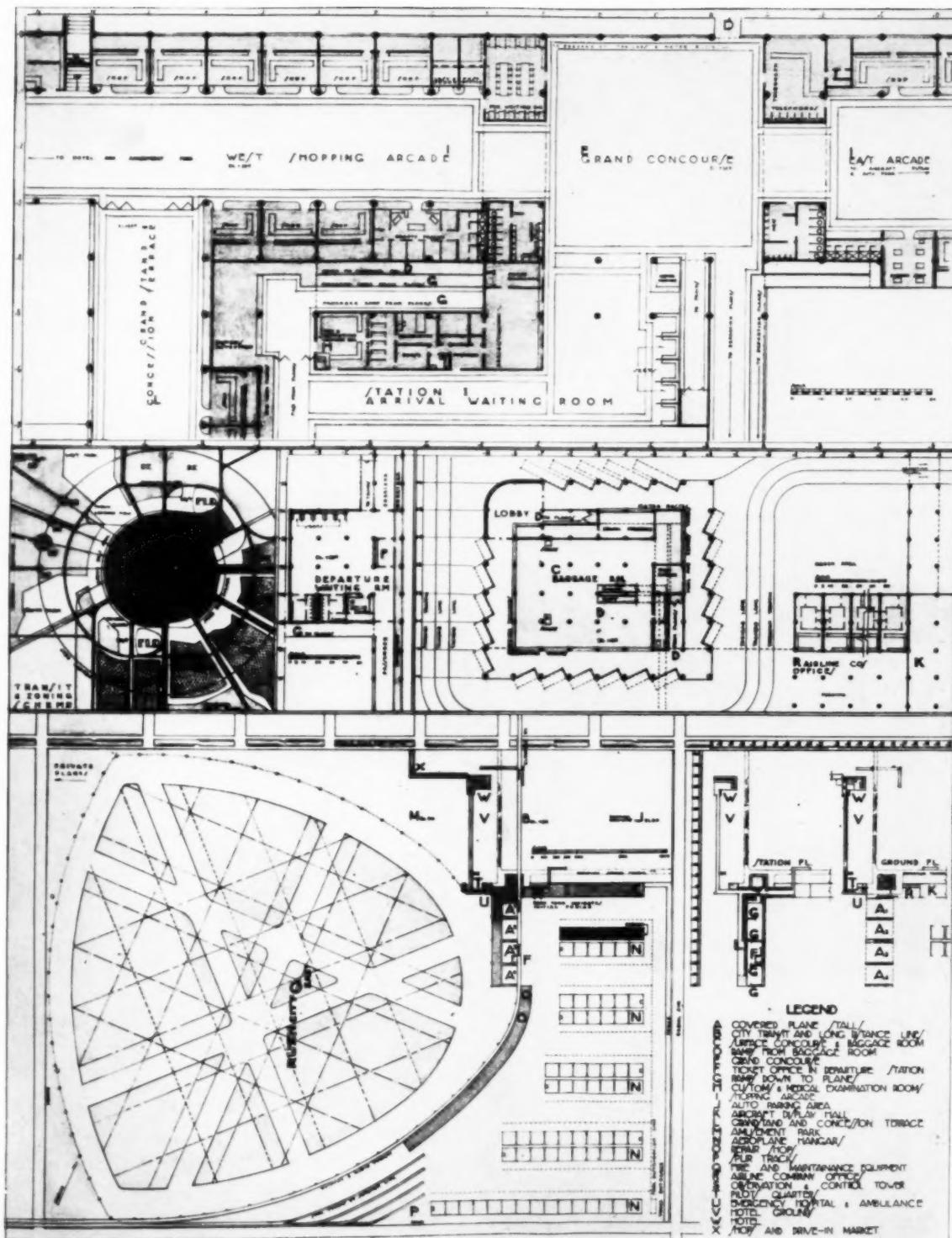
bitious investments as in the case of the railroad terminals.

At present an inefficient link between long distance air travel and regional traffic counterbalances the advantages of the former to quite an extent. Speed and fluidity in the transition from air to ground vehicle is what is needed more than a *grand court d'honneur* in front of an airport.

There is something static about the concept of a *port*. It seems to lack flexibility. What then is an airport? It should be a point where a specific kind of transportation stops. But freight and people go on being transported. They simply change their vehicle and this change should mean

a minimum of time investment. It should be smooth, rapid and inexpensive. Not air-terminals and ports should be designed but rather through-stations and junction-points—*Air Transfers*.

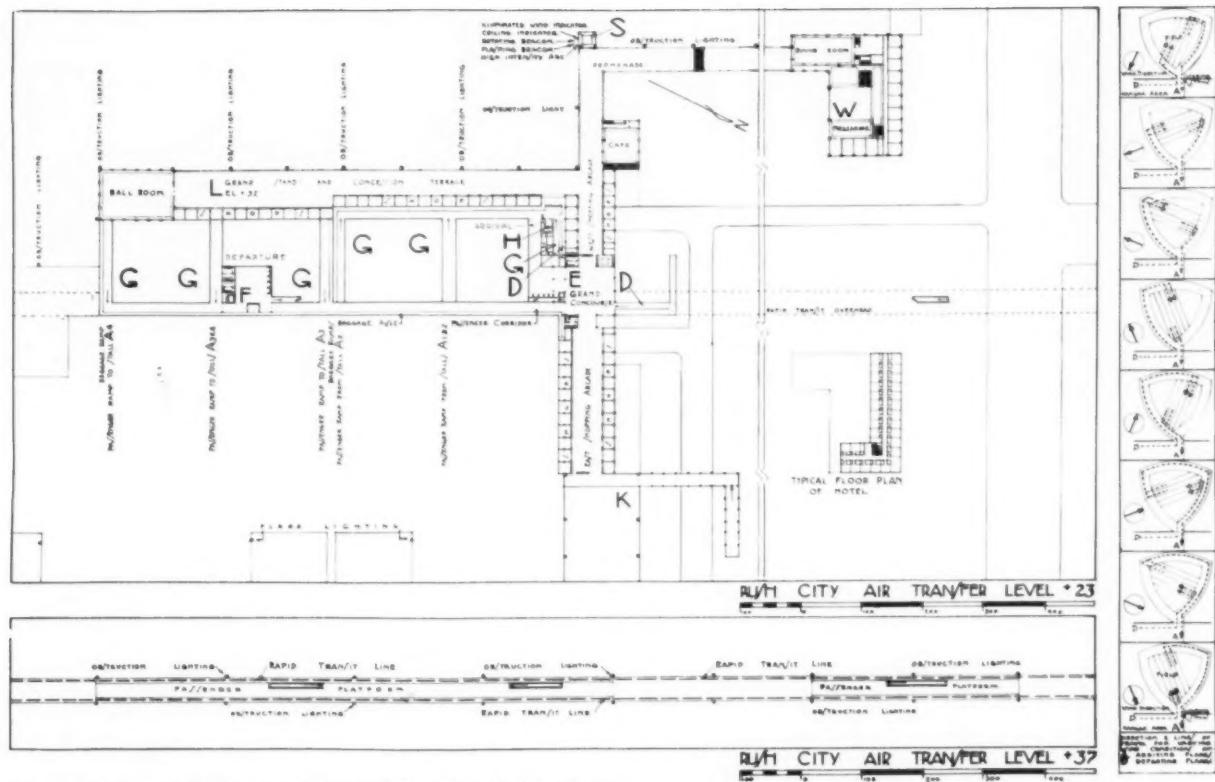
The project, *Rush City Air Transfer*, is founded entirely on the idea of seeing transportation as a whole and of providing for it as an interrelated whole. Certain primary and general assumptions seemed necessary. One was that because of land values a spacious air transfer would not be situated in the central part of the metropolitan area, but probably outside this zone, so that subway transit becomes a necessity. A desirable location would be within the green-



RUSH CITY AIR TRANSFER

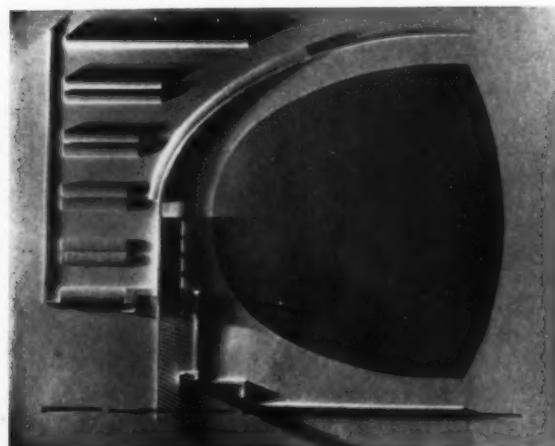
For the modern traveller, a long distance trip has to bring him not to an ultimate destination but to a link within a well arranged regional transportation system.

RICHARD J. NEUTRA, ARCHITECT, COLLABORATING WITH GREGORY AIN, DONALD GIFFEN, HARWELL H. HARRIS, AND RAGNHILDE LILJEDAHL



RICHARD J. NEUTRA, ARCHITECT, COLLABORATING WITH GREGORY AIN, DONALD GIFFEN, HARWELL H. HARRIS, AND RAGNHILDE LILJEDAHL

RUSH CITY AIR TRANSFER
AIR VIEW OF MODEL



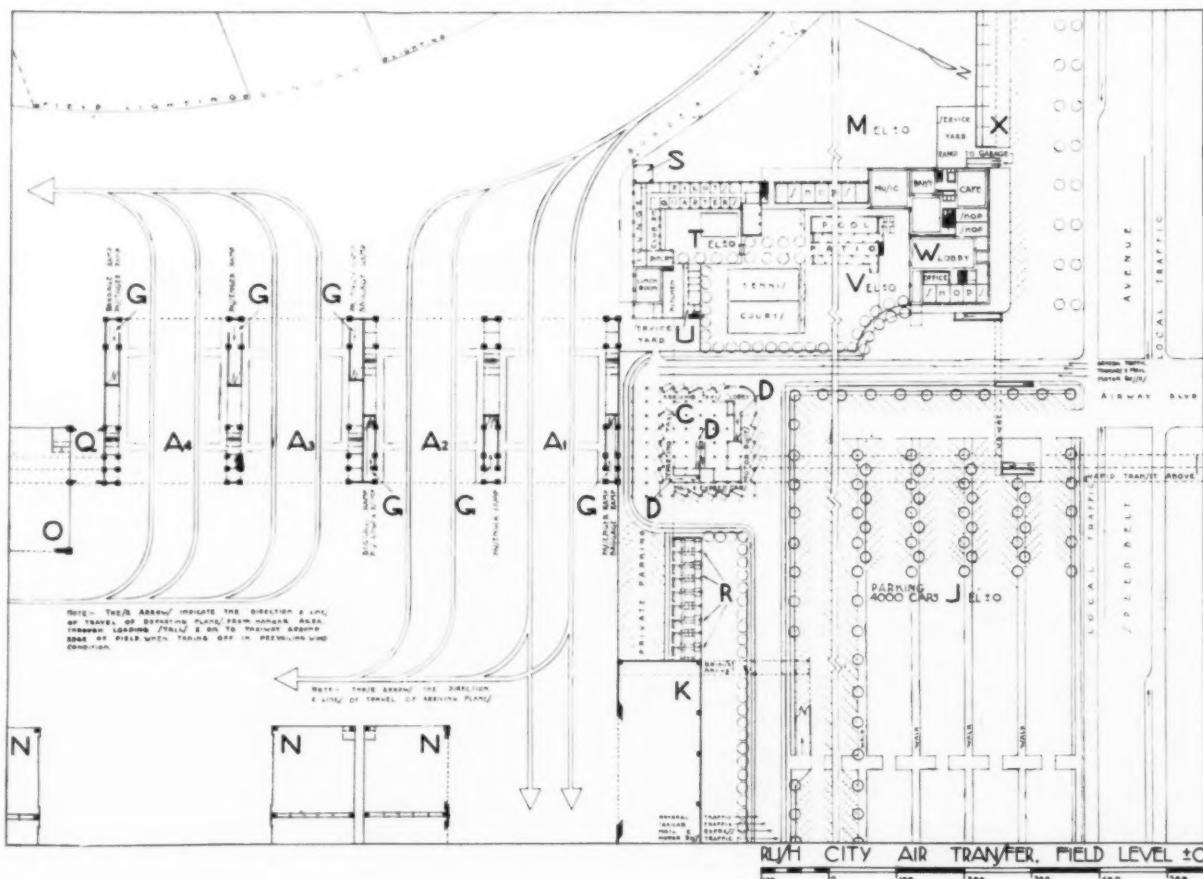
What then is an airport? It should be a point where a specific kind of transportation stops. But freight and people go on being transported. They simply change their vehicle and this change should mean . . .

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RUSH CITY AIR TRANSFER
AIR VIEW OF MODEL

RICHARD J. NEUTRA, ARCHITECT, COLLABORATING WITH GREGORY AIN, DONALD GIFFEN, HARWELL H. HARRIS, AND RAGNHILDE LILJEDAHL



belt area surrounding the central core of the region zoned for business and central institutions.

The regional rapid transit is brought right over the spacious loading stalls of airliners, giving them at the same time a desirable protection during embarking and disembarking of passengers. Easy ramps connect the sidewalks of these stalls with main waiting rooms and the upstairs grand concourse as well as with the level of the metropolitan rapid transit traffic. On the other hand all tire vehicles enter the Air Transfer in traffic lanes especially assigned to the different types of conveyances: taxicabs, motor busses, baggage and mail trucks. They branch off Speedbelt Avenue and return to Radial Avenue. These vehicles stop at allotted places around their loading and unloading islands.

The main entrance lobby, with the baggage concourse, is centrally located around baggage elevators and ramps. From the lobby portion of this island easily ascended ramps lead passengers up to the grand concourse, lavatories, post office, writing and waiting rooms.

Thus this grand concourse twenty feet above the field level becomes the center of pedestrian traffic. It is therefore made the center from which revenue-bearing concessions radiate. Broad well-illuminated shopping arcades run in one direction toward the promenade overlooking the field, the cafe, the amusement park and the hotel, and in the other direction toward the aircraft display hall and the street bridge which connects this concession avenue with the spacious auto park.

Whereas the number and size of the concessions depend largely on the desirable attractiveness of the field in the eyes of the pleasure seeker, the number and size of the actual transfer facilities ought to be based upon the volume and character of the traffic handled and that in turn is in a functional proportion with *size and shape of the landing and take-off area*. If this area satisfies the U.S. Department of Commerce requirements by providing at least one runway 3500 feet

long in each direction and if, for instance, a triarc shape after Gavin Hadden is assumed, then the ultimate capacity of the field in simultaneous landings and take-offs is four and its capacity for one hour, allowing seven and a half minutes for the single operation, is thirty-two.

If the average number of minutes required for loading and unloading is taken as fifteen, then to use the given field to capacity, eight simultaneous loading and unloading facilities must be provided for. The number and size of other facilities depend upon the number of passengers handled, which is found by multiplying the estimated number per plane by thirty-two. Thus, in a way, the length of runway determines the extent of all developments needed for the efficient operation of this given field. As a matter of course such development can take place in subsequent periods, when actual need arises and financial means can be supplied.

The arranging of the landing field on one side and the storage space of aircraft on the other of the double width loading stalls permits a definite and orderly routing of planes being taxied in or out. Centrally, in close reach from both sides, the fire and field maintenance department is located. The spur tracks of the electric junction railway branch into the hangar and repair yard where as many as 200 planes may be stored. By reinforced concrete vault construction the fire hazard is easily isolated in fireproof compartments and longer hangar units can be erected with safety and with saving of separating areas.

Briefly this is the case of *transfer* versus *terminal*. Certainly a stately forecourt, resembling perhaps that of Saint Peter's in Rome, would have undeniable monumental force and dignity, but it is doubtful if these qualities would be appreciated or desired by hurrying passengers who must pay for them with loss of time and energy and actual danger of injury from motor vehicles. Monumental design should be replaced by a more modest attitude until the problem in hand is practically well defined and solved.

AIRPORT AT HAMBURG GERMANY



Photos: Rheinlander



DYRSSEN
AND
AVERHOFF
ARCHITECTS



Photo. Rheinlander

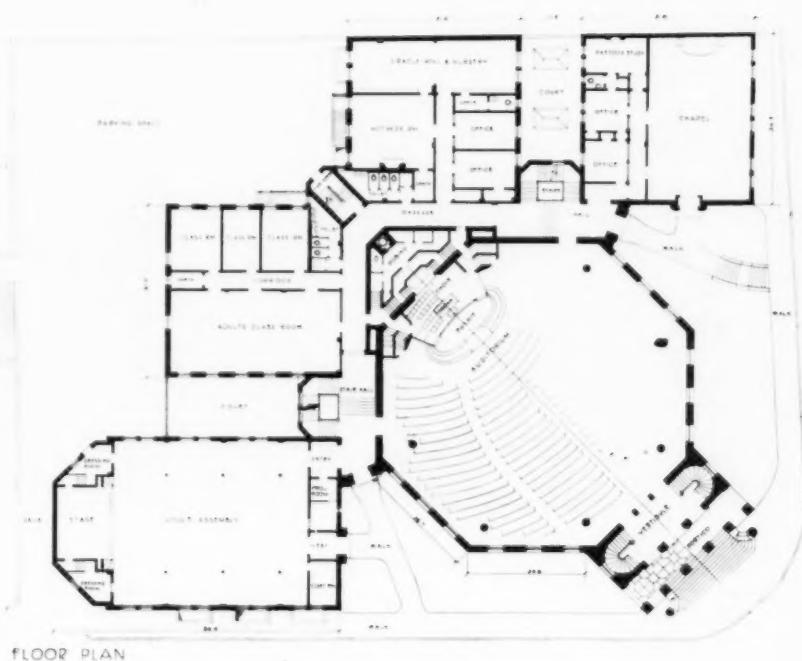
AIRPORT AT HAMBURG, GERMANY
DYRSSEN AND AVERHOFF, ARCHITECTS

THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.

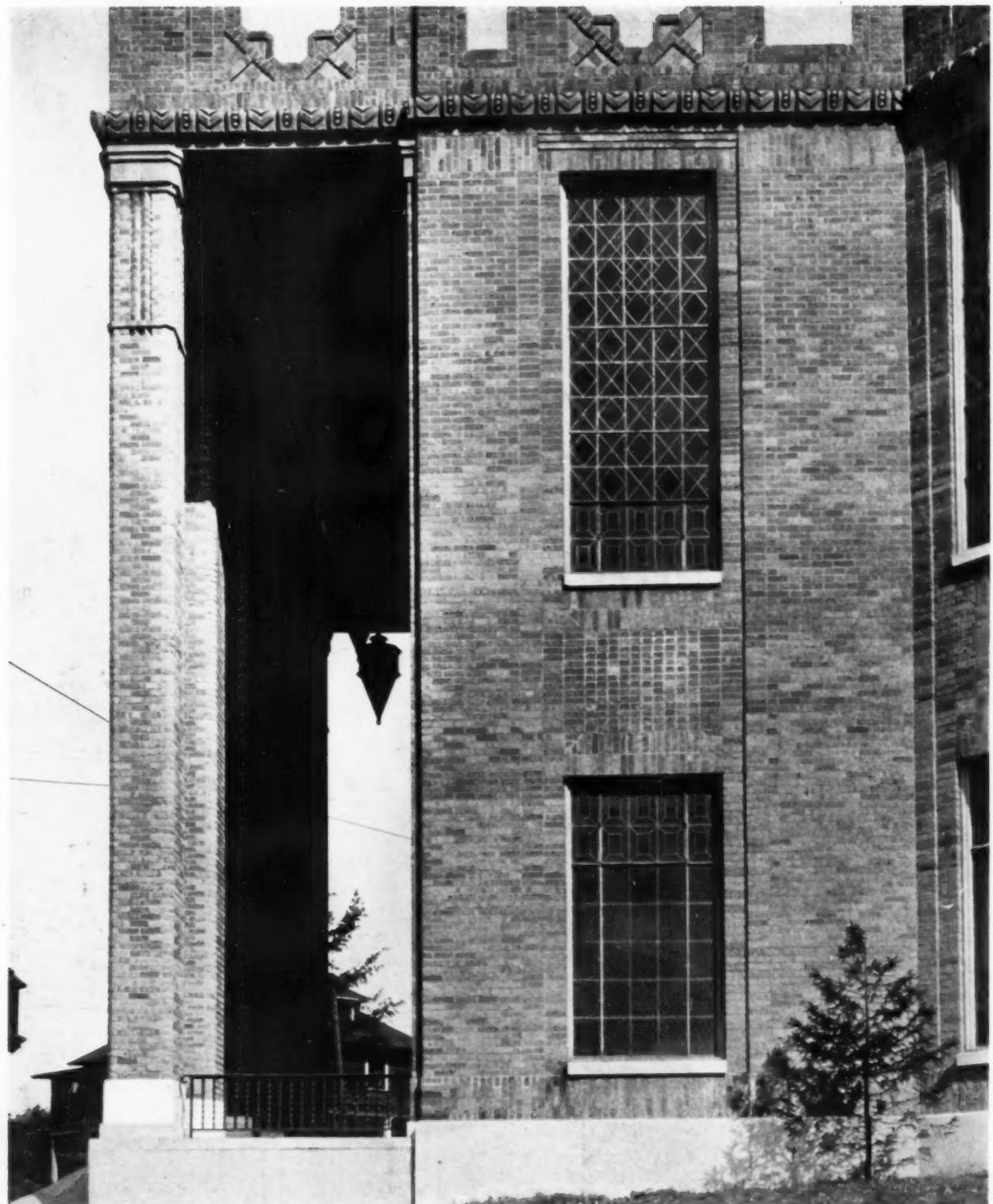
DOUGLAS D. ELLINGTON, ARCHITECT



Photo: *Pictorial Studios*



The new First Baptist Church of Asheville is in actuality a group of five buildings which pyramid into a single structure.



Photo, Plateau Studios

THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.
DOUGLAS D. ELLINGTON, ARCHITECT

The building was planned for a congregation of five thousand, which includes, in terms of seating capacity, educational provision for three thousand and church accommodation for two thousand.



Photo, Plateau Studios

There are more than one hundred rooms. The pastor's residence is the only detached structure.

THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.
DOUGLAS D. ELLINGTON, ARCHITECT

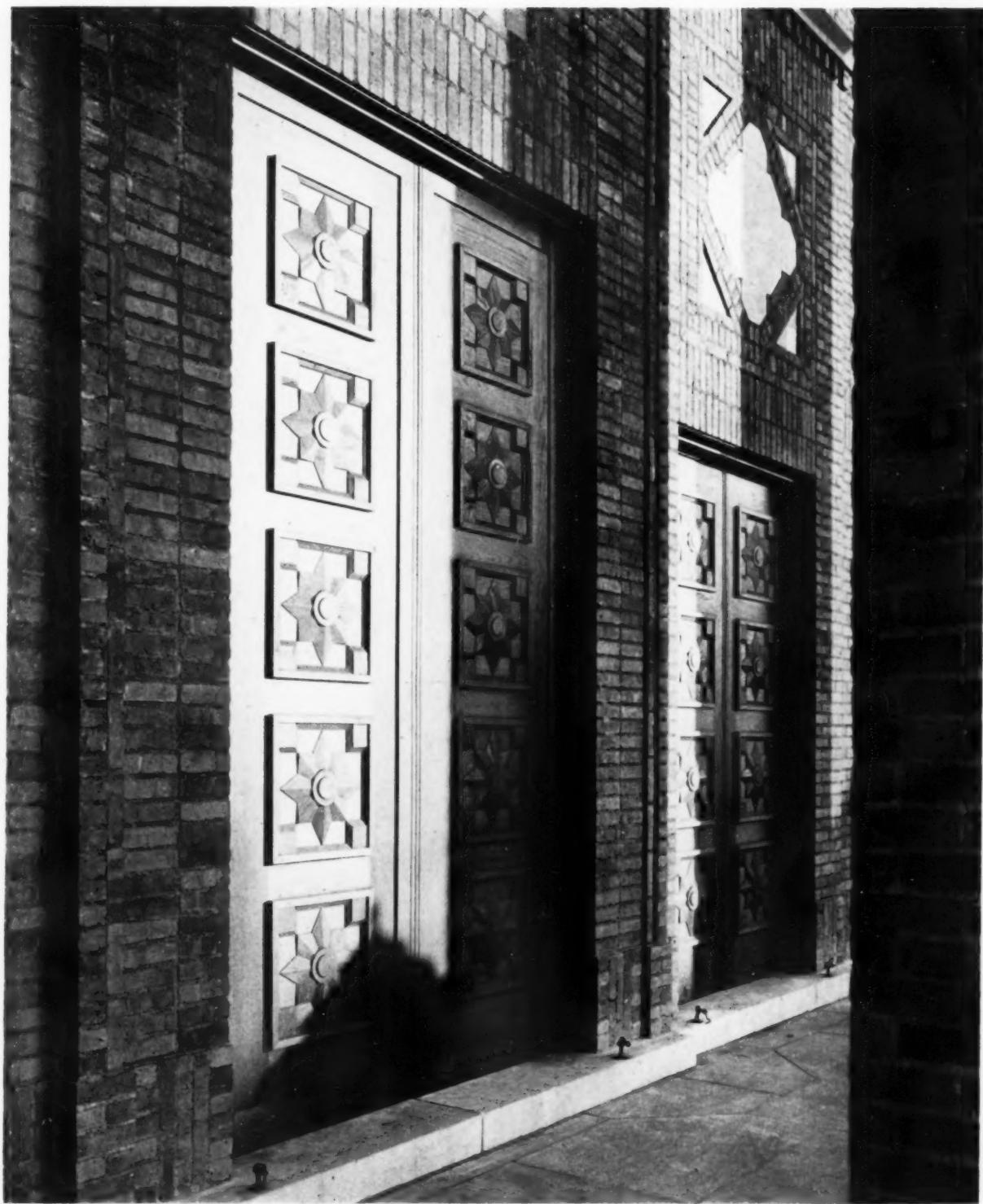
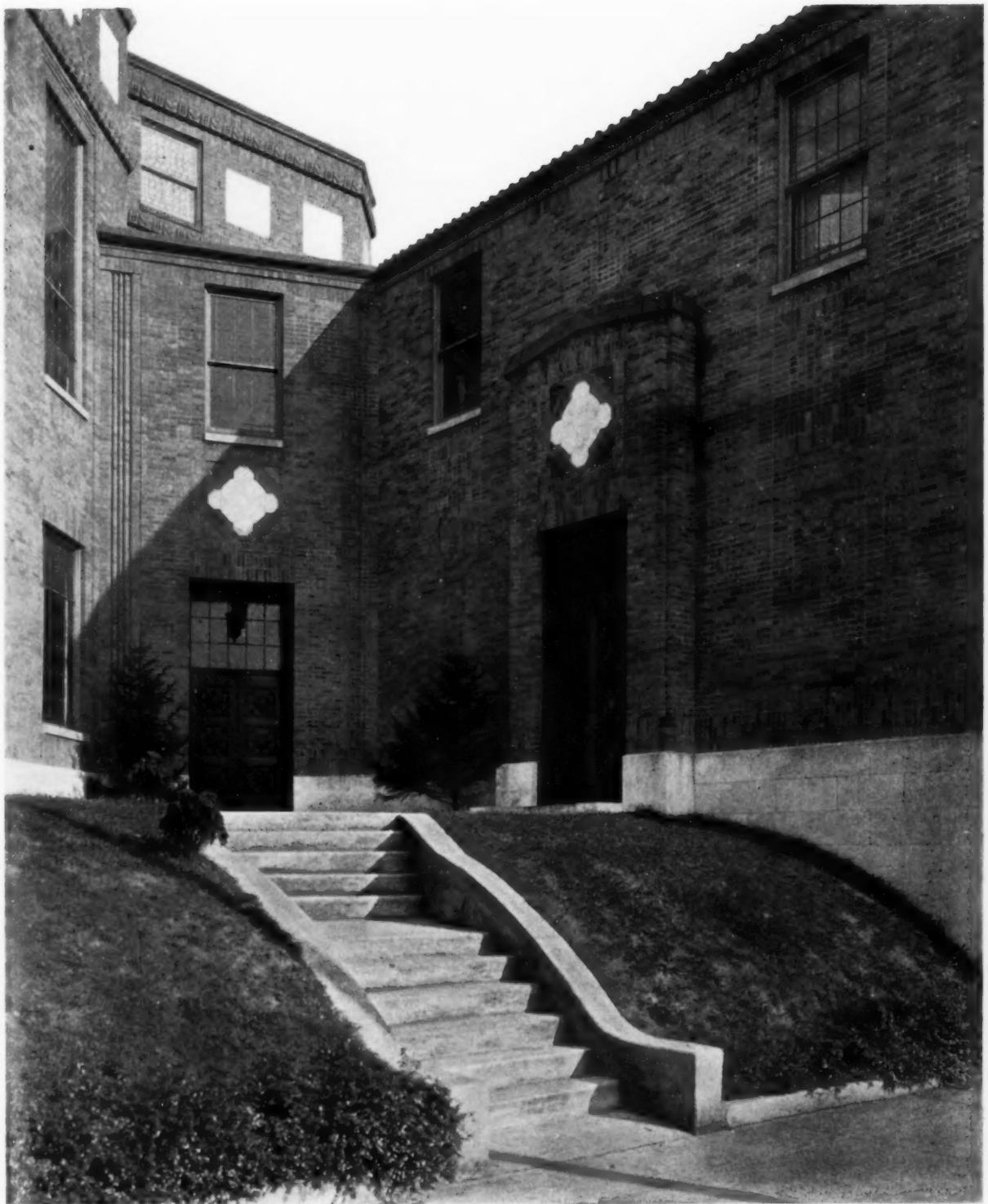


Photo. Plateau Studios

THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.
DOUGLAS D. ELLINGTON, ARCHITECT

The exterior walls are of Booker brick which resembles the English handmade brick of the early eighteenth century.



Photo, Plateau Studios

The profuse patterns occurring throughout the brickwork are set off at intervals by clearly delineated ornament in pink Georgia marble.

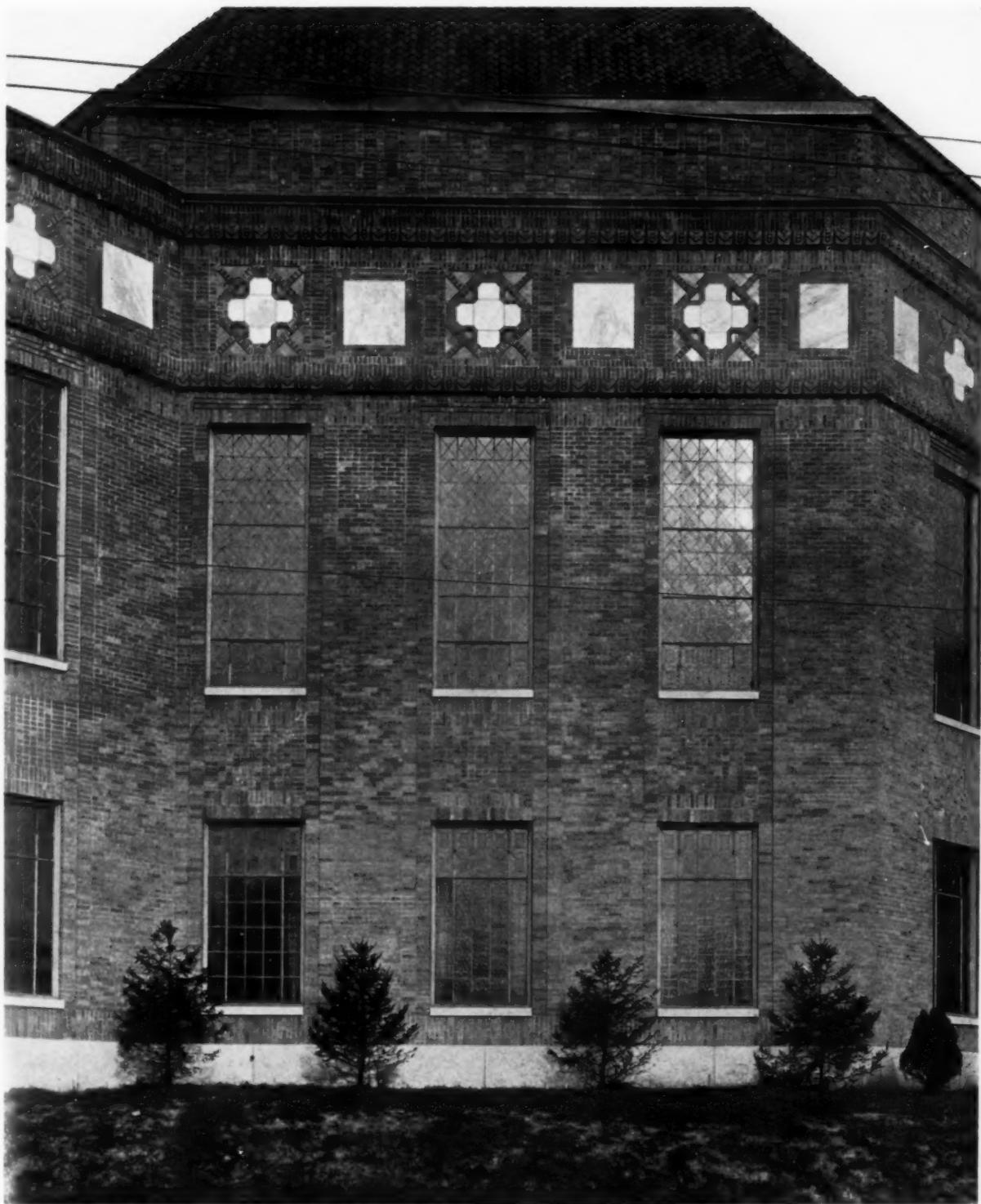
THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.
DOUGLAS D. ELLINGTON, ARCHITECT



Photo. Plateau Studios

THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.
DOUGLAS D. ELLINGTON, ARCHITECT

The brick color is a warm heather purple. The terra cotta bands and copings match the color of the brick. The general structure is of load-bearing brick construction.



Photo, Plateau Studios

The outer units of the educational areas are two stories in height, the inner units three stories in height, the main auditorium a height equal to five stories including the dome with which it is capped.

THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.
DOUGLAS D. ELLINGTON, ARCHITECT



Photo Plateau Studies

THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.
DOUGLAS D. ELLINGTON, ARCHITECT

The tile roof, from eaves to apex, graduates in tone from a fire-flash purple through brown and red and ochre to green, finally blending into the rusty green of the copper cupola.

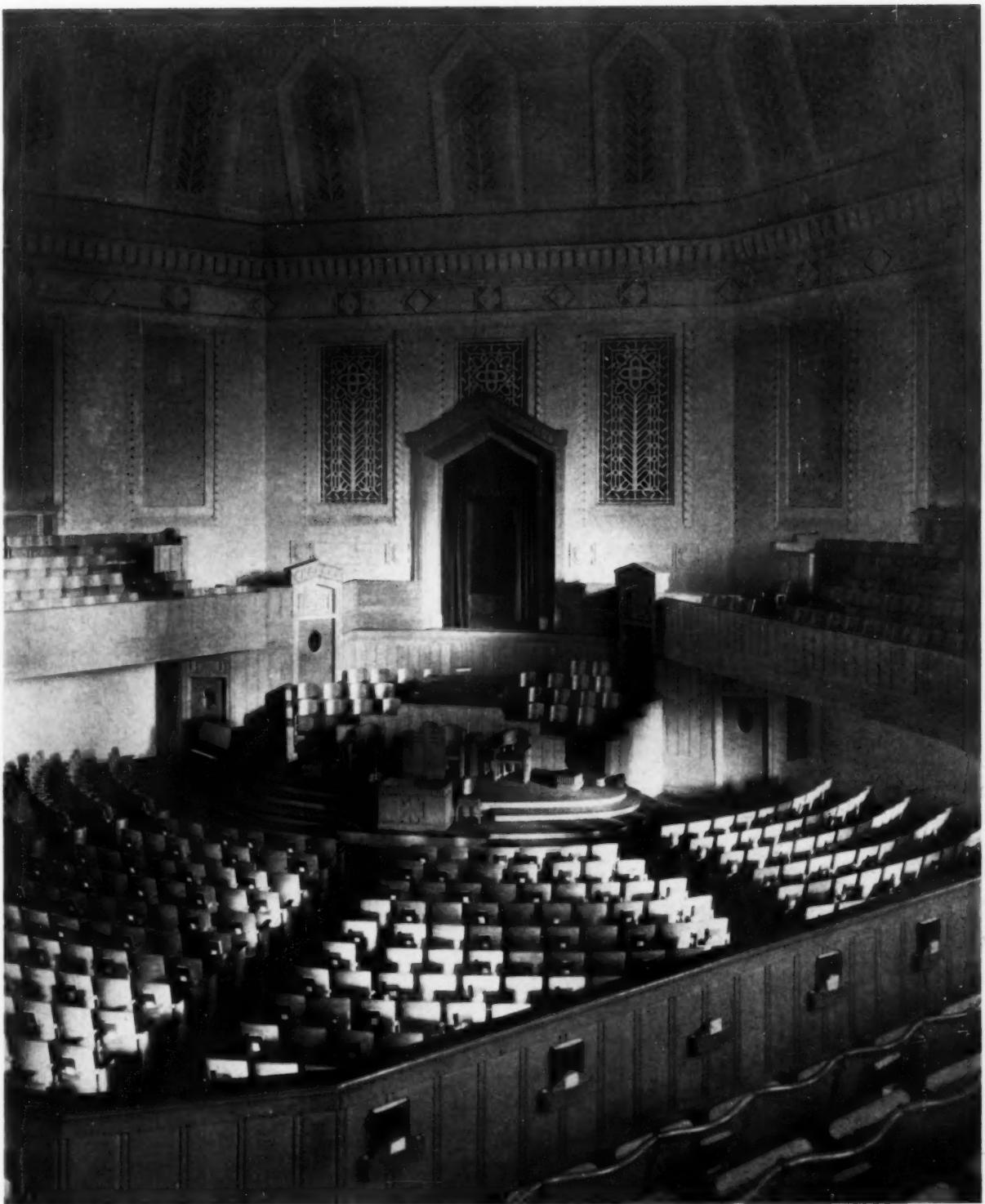


Photo: Platian Studios

The dome, self-contained within a steel frame, rests like an inverted bowl upon the octagonal walls of the auditorium. The balcony is of cantilevered steel construction.

THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.
DOUGLAS D. ELLINGTON, ARCHITECT



Photo, Plateau Studios

THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.
DOUGLAS D. ELLINGTON, ARCHITECT

The general color employed in the interior is a warm green gray. In the walls, woodwork and furniture the quality of the color is light and in the floors and draperies it is of a deeper and duller hue.

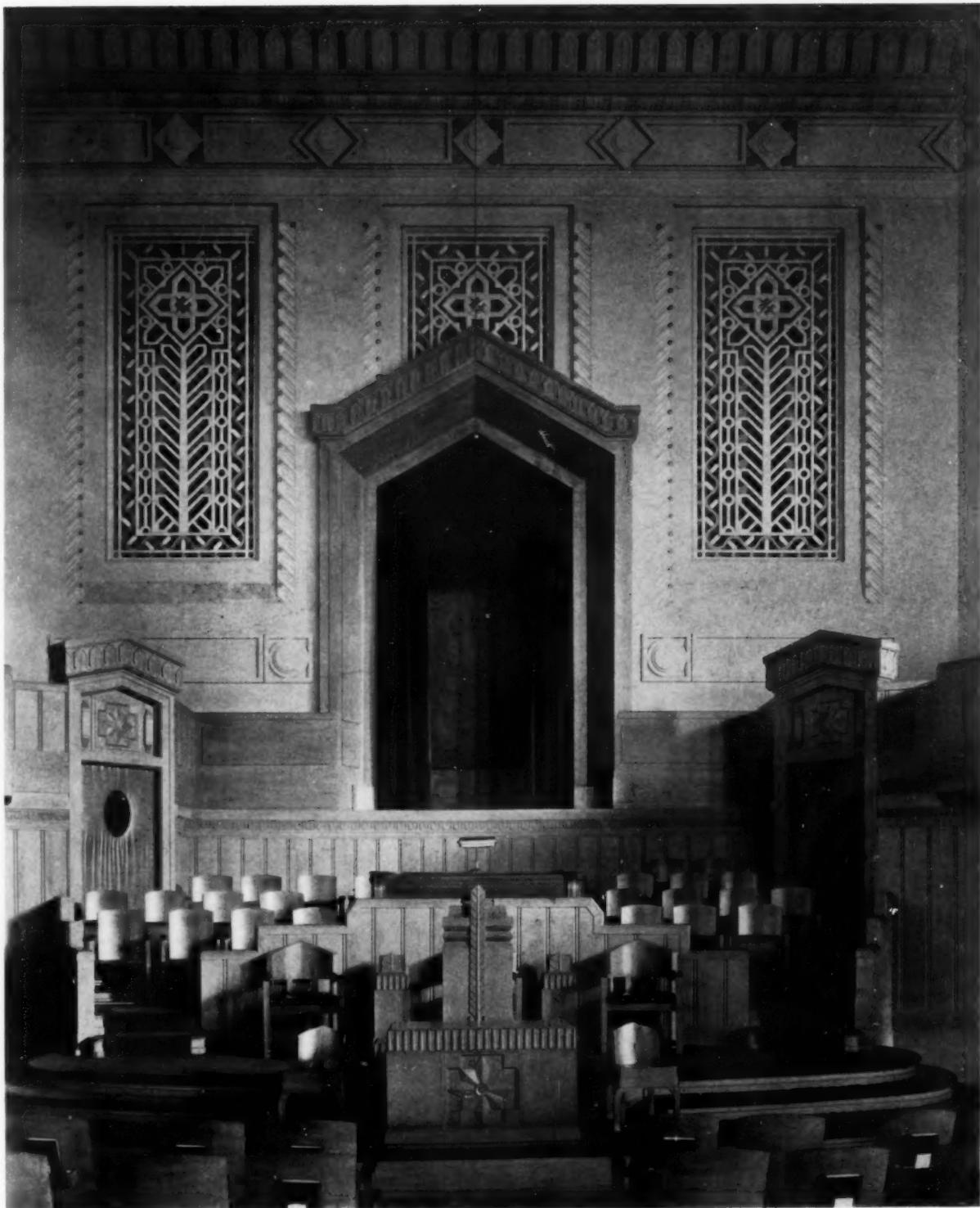


Photo. Plateau Studios

The windows are of green and amber crinkled Flemish glass. The grilles and ornamental plaster are relieved in color with amber, gold and clear green.

THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.
DOUGLAS D. ELLINGTON, ARCHITECT

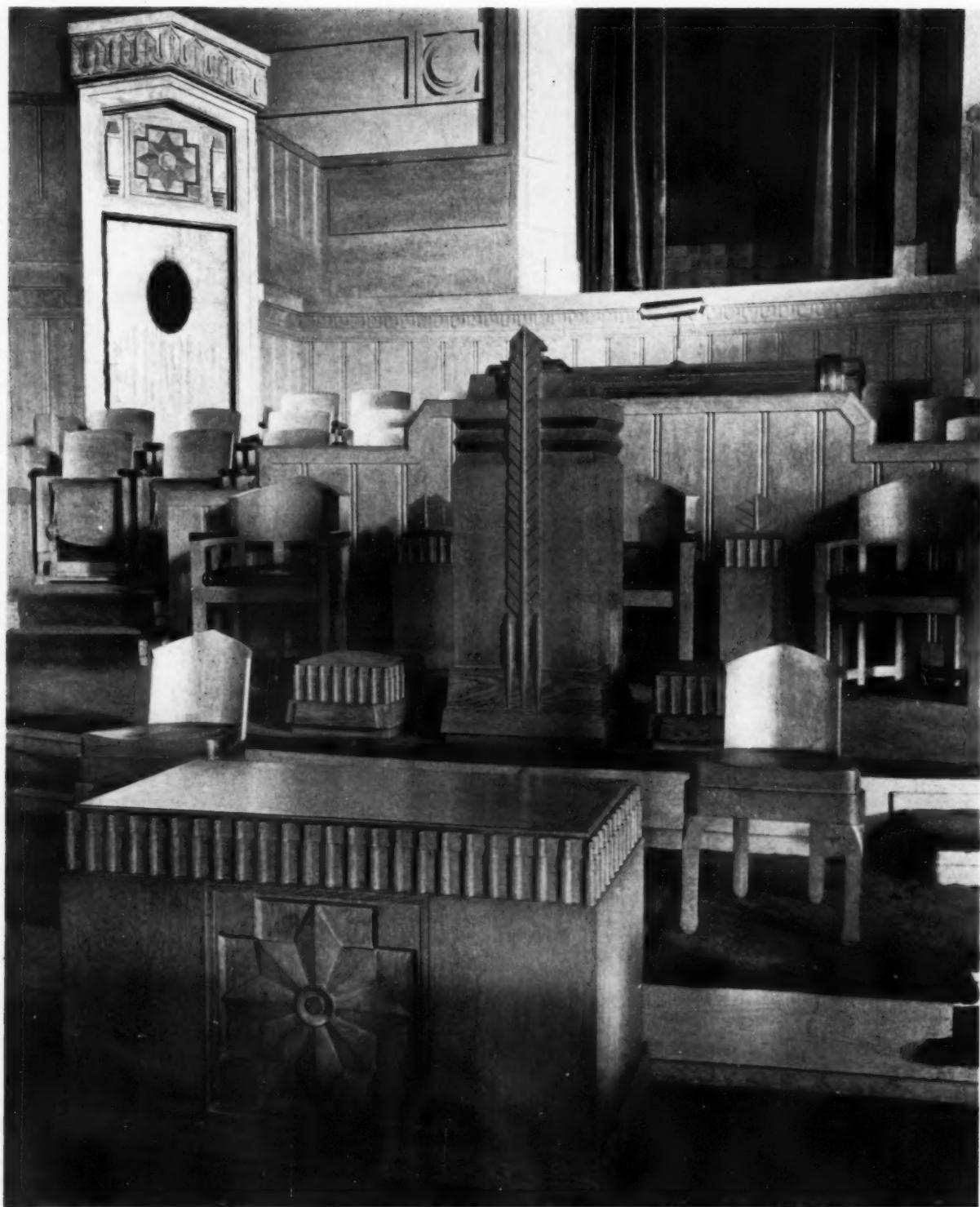


Photo. Plateau Studio.

THE FIRST BAPTIST CHURCH OF ASHEVILLE, N. C.
DOUGLAS D. ELLINGTON, ARCHITECT

Cove lighting is used in the auditorium. All furnishings were designed by the architect. The cost of the structure was 35c a cubic foot.



Photo: J. W. Grimes, Inc.

HOUSE FOR J. C. DAVIES AT JOHNSTOWN, PA.

The only difficult problem presented was in laying out a building which would take its place on the top of a hill. The building cost was approximately 75c a cubic foot.

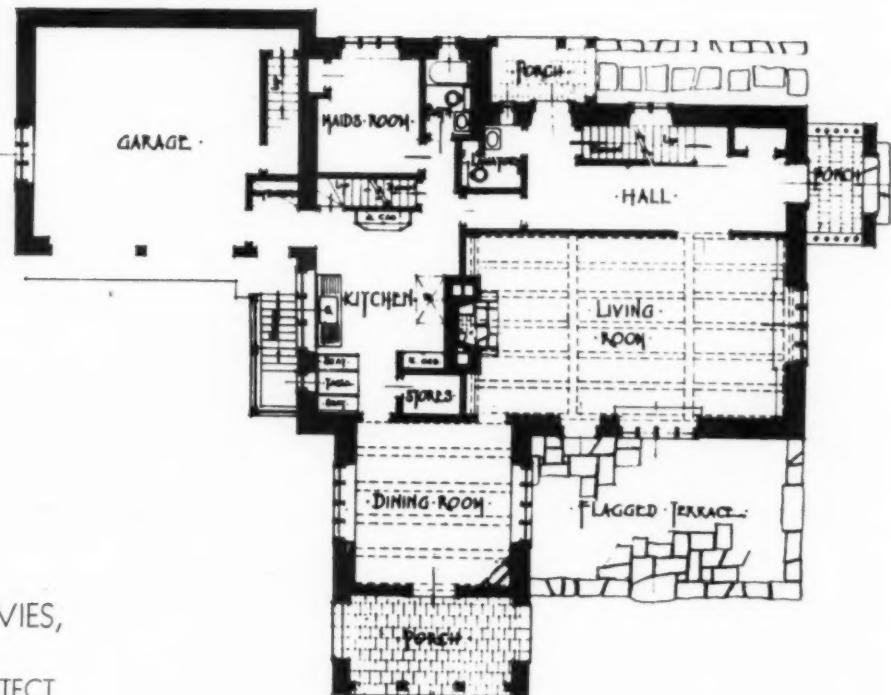
A COUNTRY HOUSE IN PENNSYLVANIA

FRANK J. FORSTER
ARCHITECT



Photo, J. W. Gillies Inc.

GROUND FLOOR
PLAN

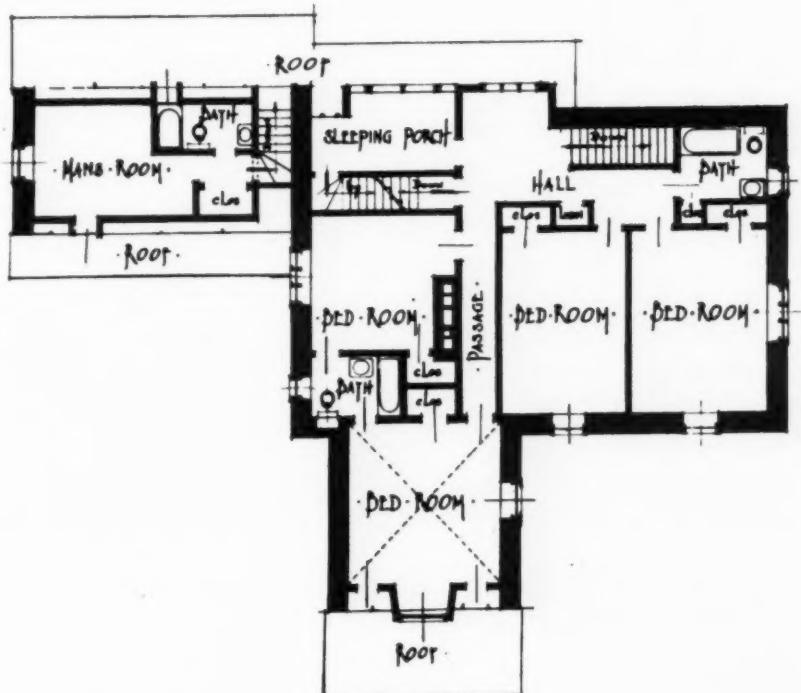


HOUSE FOR J. C. DAVIES,
JOHNSTOWN, PA.
FRANK J. FORSTER, ARCHITECT



Photo: J. W. Gillies, Inc.

SECOND FLOOR
PLAN



HOUSE FOR J. C. DAVIES,
JOHNSTOWN, PA.
FRANK J. FORSTER, ARCHITECT



Photo, J. W. Gillies, Inc.

HOUSE FOR J. C. DAVIES, JOHNSTOWN, PA.
FRANK J. FORSTER, ARCHITECT

The exterior woodwork has been stained in a soft weathered brown color. All of the timbering, both interior and exterior, was taken from an old barn.



Photo, J. W. Geilie, Inc.

The stone for the exterior walls was taken from an old abandoned iron furnace located near Johnstown. Its color ranges from light buff to a soft plum color. The roof is a heavy slate, graduated in thickness and varying in color.

HOUSE FOR J. C. DAVIES, JOHNSTOWN, PA.
FRANK J. FORSTER, ARCHITECT



Photo, J. W. Gillins, Inc.

**HOUSE FOR J. C. DAVIES, JOHNSTOWN, PA.
FRANK J. FORSTER, ARCHITECT**

The interior woodwork of the first floor main rooms and second story hall is stained. The plaster is rough and slightly tinted. In the main bedrooms the plaster is also rough, but the woodwork is painted.

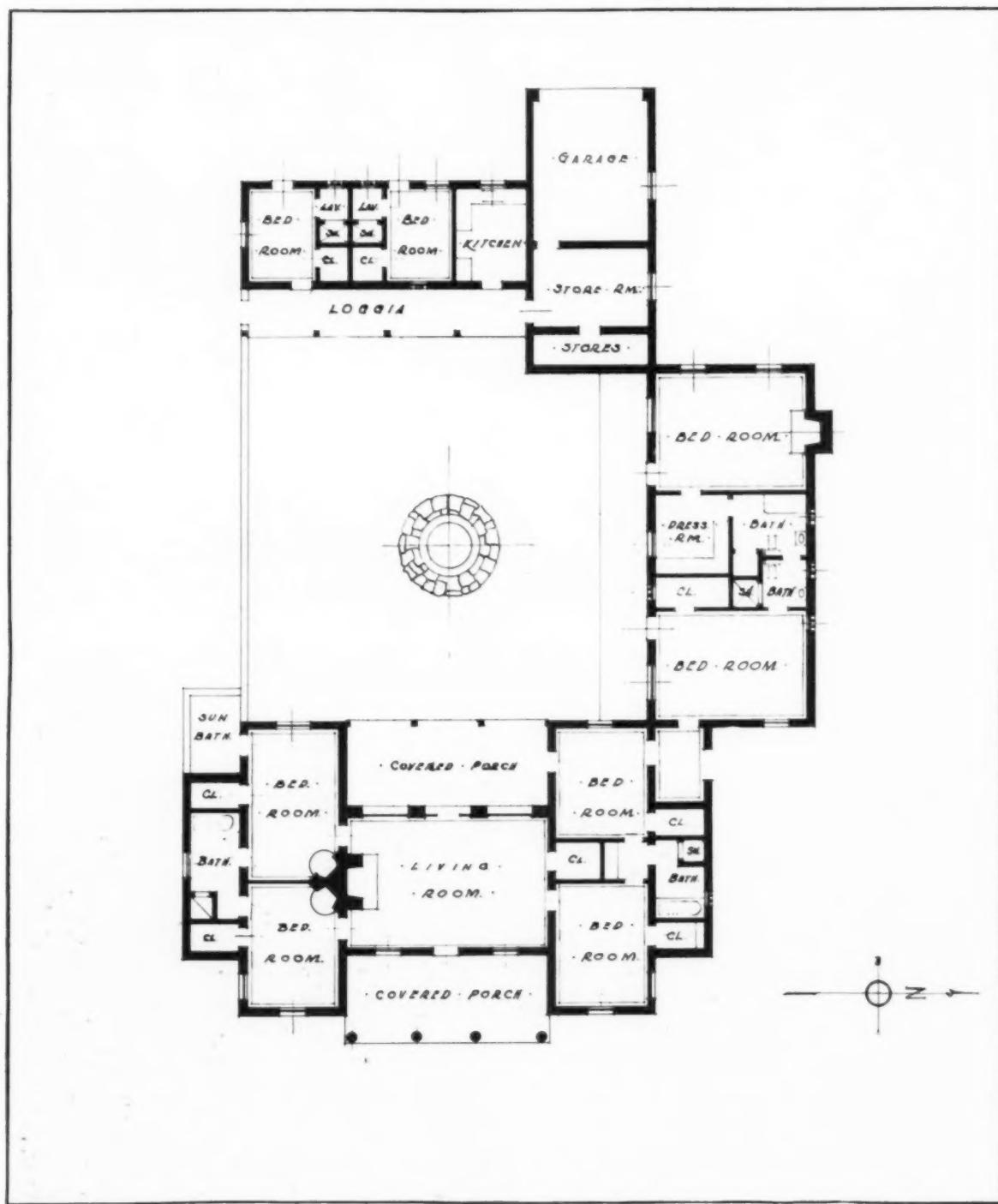
A COUNTRY HOUSE IN CALIFORNIA



Photo, W. M. Clark

HOUSE FOR CYRUS PIERCE,
LA QUINTA, CALIFORNIA

GORDON B. KAUFMANN
ARCHITECT



GROUND PLAN

HOUSE FOR CYRUS PIERCE, LA QUINTA, CALIFORNIA
GORDON B. KAUFMANN, ARCHITECT



Photo, W. M. Clarke

HOUSE FOR CYRUS PIERCE, LA QUINTA, CALIFORNIA
GORDON B. KAUFMANN, ARCHITECT



Photo, W. M. Clark

HOUSE FOR CYRUS PIERCE, LA QUINTA, CALIFORNIA
GORDON B. KAUFMANN, ARCHITECT



Photo, W. M. Clarke

HOUSE FOR CYRUS PIERCE, LA QUINTA, CALIFORNIA
GORDON B. KAUFMANN, ARCHITECT



Photo, W. M. Clarke

HOUSE FOR CYRUS PIERCE, LA QUINTA, CALIFORNIA
GORDON B. KAUFMANN, ARCHITECT

HOW SMALL A HOUSE?

THE problem of providing lodgings for the small wage earners has attracted little study from architects. The task has been relegated to the ambitious but unskilled jerry-builder who has given us as his solution the haphazard ugliness of Shacktown and the Slum.

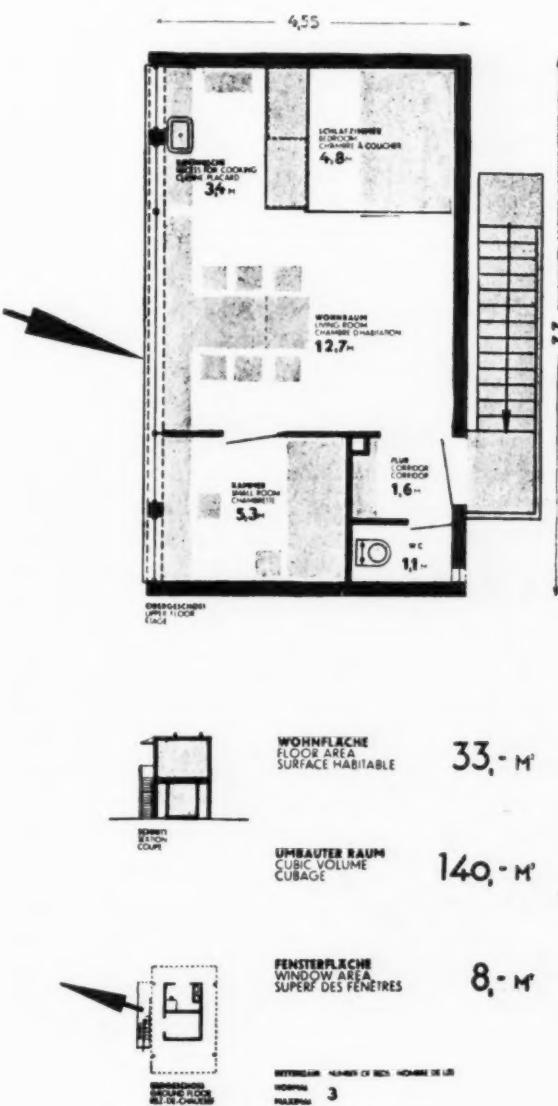
Obviously a change is necessary for the promotion of a healthy society and this change must evolve not through the hit and miss methods of speculative builders, but through the scientific study of the small habitation unit and the needs of the inhabitants. Something more than a mere contraction of rooms to their smallest livable dimensions is required. There should be included a maximum of the most up-to-date household conveniences, and new materials affording an economy of construction should be considered. Such a change from existing conditions presupposes a study not only of the demands of hygiene, but even of the structure and function of the family itself.

The minimal habitation has already received attention in Europe where the problem of housing the masses efficiently and economically is pressing enough to be a political issue. At the second International Congress on Modern Architecture, held last year at Frankfurt-am-Main under the auspices of the *Stadtbauanstalt*, the minimal house was the sole subject of debate among the 150 delegates assembled from America and the various countries of Europe.

In conjunction with the Congress there was an exhibition of some hundred plans submitted by these architects as tentative solutions of the minimal house. These plans, drawn to a standardized scale, have since been collected and now appear in book form under the title, *Die Wohnung für das Existenzminimum*, published by Englert and Schlosser of Frankfurt. All

descriptive captions are printed concurrently in German, English and French, and there is some text matter written by *Stadtbaaurat* Ernst May of Frankfurt and by Dr. Siegfried Giedion of Zürich, secretary of the Congress and author of several books on modern architecture.

Some of the plans are quite interesting, offering a pertinent application to the plan-



A SPECIMEN ONE-FAMILY HOUSE FROM "DIE WOHNUNG FÜR DAS EXISTENZMINIMUM"

ning of apartment houses where space is at a premium. Others are quite mediocre, revealing no great planning craft other than that of reducing the essential rooms to their smallest allowable dimensions. The various tricks and *tours de force* are ingenious but unsatisfactory. The better plans are those inspired largely by the typical American "efficiency" apartment layouts where the same room serves a two-fold purpose, one by day and another by night. By far the most highly organized plan submitted is the one by Le Corbusier and P. Jeanneret, a scheme which is described in full detail in this issue of THE RECORD, pages 131-135.

Realizing that it would not be possible to arrive at any definite conclusions within a few days on such a difficult problem as the minimal house, the Congress has sought instead to set up an international tribunal which will gather together material and data, recognize the sources of error and, above all, conduct investigations among business and professional men with the aim of substituting a scientific precision for vague subjective gropings in building construction. A collaboration between the professions on an international scale will be attempted to determine *scientifically* the program of the minimal habitation.

Sociological requirements determine largely the minimal house, according to Prof. Walter Gropius of Berlin, who addressed the assembly. The economic life of the community has changed greatly: the cooperative division of labor has made the family lose its importance as an economic unit of production and consumption. The children become self-supporting at an early age and consequently the family tends to break up into separate entities always more reduced in size and more numerous. This phenomenon is not an evidence of decadence; rather it is an intermediate stage towards a more differentiated society.

For the habitation all this means a steadily increasing number of separate, distinct lodgings, and at the same time a reduction

in their dimensions. These minimized dimensions which are brought about by the decentralization of the family should not be considered simply as the result of a transitory economic development—they relate intrinsically to the division of labor, which in turn has been brought about by the development of modern industry.

The change in social conditions requires the elaboration of an entirely new program for the minimal habitation. It is not by merely reducing the dimensions of houses already evolved that one can find the solution. First it is necessary to determine the minimum of air, light and space which each person requires. Biologists and hygienists demand a maximum of light and air, but within a space reduced sufficiently to render this maximum possible. Certain rules can then be set forth—to enlarge the windows, to economize the habitable space and to give each adult his own room.

Architects have no interest in going below the minimum requirements of hygiene for reasons of economy. They are able to recognize clearly their responsibilities as professional men in the problems of building. Consequently they should demand a change in the spirit of building codes—rigid laws should be replaced by those more flexible. Bad housing, however, will be eliminated by the initiative of the inhabitant himself (acting through cooperative societies) and by the qualified architect rather than by laws. It is for the producer and the consumer to fix the conditions of the habitation.

Experience shows that in all countries, because of the disproportion between incomes and the costs of construction, there can be no satisfactory way of housing the working classes under present conditions. Building operations stay within the limits of industry and finance, and any initial savings in cost of construction accrue to the benefit of the private capital invested. For this reason the construction of more economical housing should be encouraged by the government.

C. THEODORE LARSON



THE MINIMAL HOUSE: A SOLUTION

By LE CORBUSIER and P. JEANNERET, ARCHITECTS

THE PROBLEM

The design of a dwelling that will be hygienic, weathertight and of sound construction, offering a high standard of living within the workingman's income.

THE SOLUTION—IN PRINCIPLE

Americans are quite familiar with the one-room "efficiency" apartment, made possible by the invention of the folding bed. Its efficiency lies in the fact that one room is used for two purposes: as a living room by day, as a bedroom by night. During the day a bedroom is used but little, if at all; by night the living room remains empty. The combination of the two functions in the same room is a logical development. This principle is the logic of the minimal house. Instead of attempting to find the absolute minima for a living room, a bedroom and a kitchen, and then combining these into a more or less well-articulated plan, the problem has been approached from the viewpoint that wherever it is rational and logical the same space shall be used to serve more than one function.

The result is a great economy of surface and cubage. The actual area inside the ex-

terior walls is 529 square feet and serves a family of six; the owner pays for 529 square feet of floor area although practically the area is much greater. The house is a true "dwelling machine"—there is no lost space.

THE SOLUTION—IN DETAIL

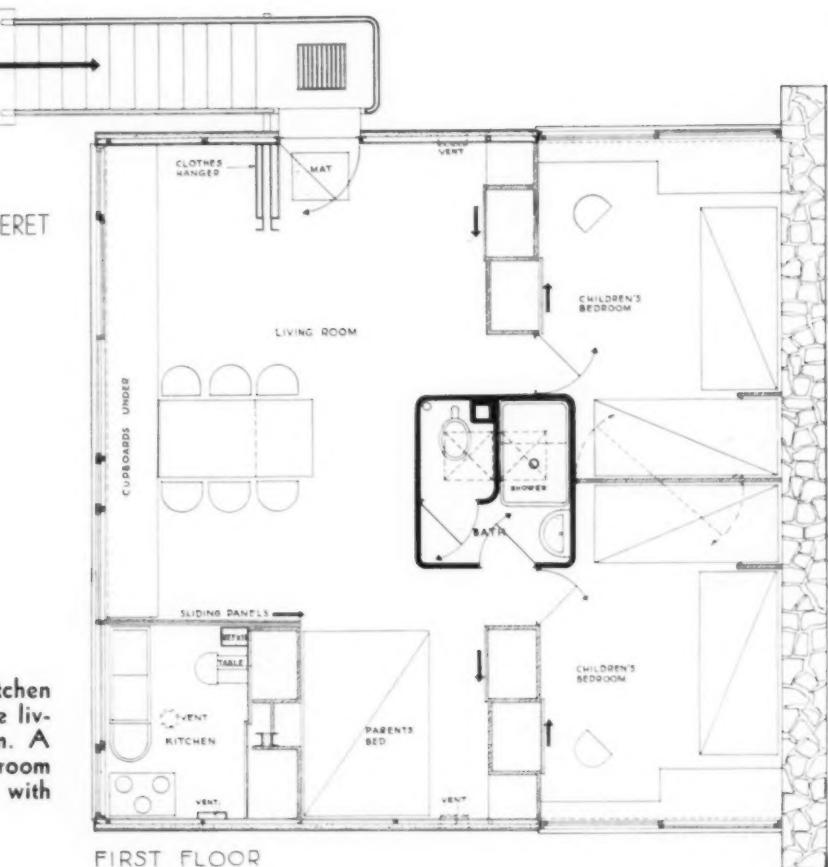
The house is the semi-detached type. The actual living quarters are raised one story off the ground and form a unit which is surrounded by the atmosphere on all sides, top and bottom. The house is in the air, with no damp cellar, and with the garden passing underneath. The small portion on the ground level contains only the laundry and heater room, a store room and the refuse box.

In the interior the only fixed partitions are those around the bathroom. The other partitions either are light-weight sliding panels or comprise standard closets and cupboards. These are constructed of sheet metal and have sliding doors. Inside there is shelving for the storing of clothing. The dimensions are standardized but allow many combinations. This idea of built-in furniture is also carried out in the tables at each window of the children's room.

A MINIMAL HOUSE
LE CORBUSIER AND P. JEANNERET
ARCHITECTS

BY NIGHT

A sliding panel shuts off the kitchen and allows the parents to use the living room as part of the bedroom. A partition divides the children's room into two separate rooms, each with two beds



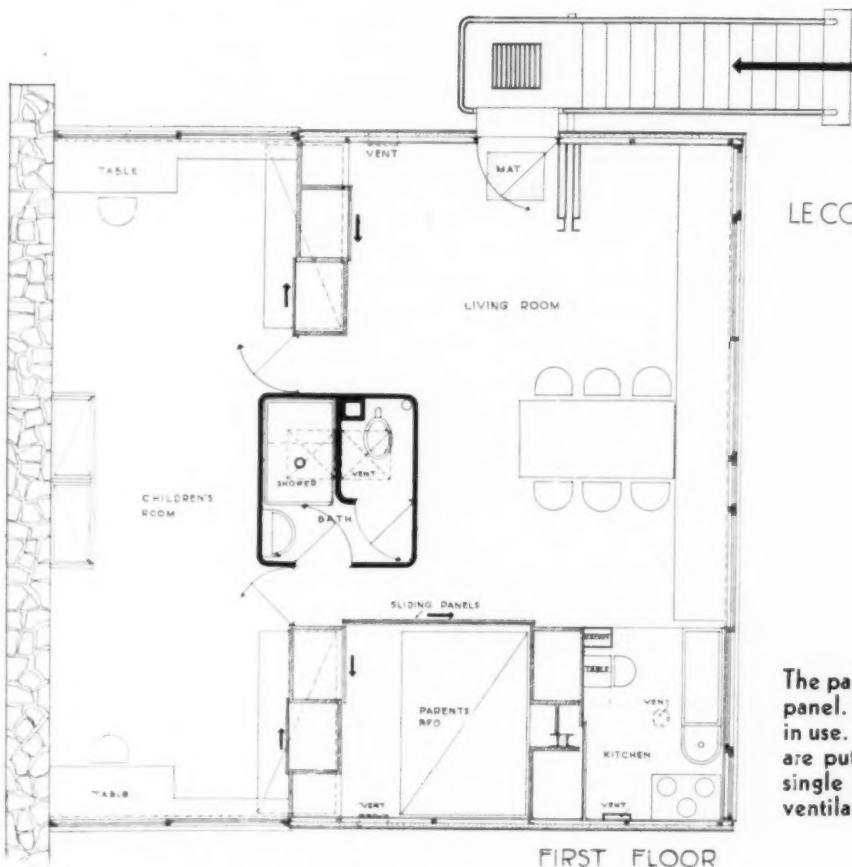
The plan reproduced shows the house by day and by night. In the daytime, by means of a sliding panel, the parents' bed is closed from the living room, thus shutting off a small space which could not be utilized. The kitchen, when not in use, may also be closed by means of another sliding panel. In the children's room two beds are of the folding type, and during the day they are folded into the closets. The two other beds are pushed halfway under the closet partitions which separate this room from the remainder of the suite. Thus the parents have a quiet living room to themselves where they may be alone, which is a desirable feature. The children have a large playroom and study is well ventilated and lighted.

At night the two panels are pushed over to shut off the kitchen, and the parents have a large and airy bedroom of which the living room is now a part. In the children's

room, the wood front wall of the bed closet is pulled forward on a track until it is halfway between the closet and the bathroom wall, then it is turned on a pivot: this forms a partition dividing the room into two smaller rooms. The folding beds are then lowered, and the other two beds pulled out and placed in convenient positions. If there are boys and girls in the family, the two bedrooms are desirable.

The kitchen is simply equipped: a sink, a range, and a workboard that slides out from the built-in cupboard to be used for the preparation of food. In the floor is the lid of the flue leading to the refuse box. The living room is utilized as a dining room.

The bathroom contains a water closet and a lavatory. The bathtub is the type in which one sits rather than lies down; the shower is overhead. A skylight lights this room.



A MINIMAL HOUSE
LE CORBUSIER AND P. JEANNERET
ARCHITECTS

BY DAY

The parents' bed is shut off by a sliding panel. Likewise the kitchen when not in use. In the children's room the beds are put away and the children have a single large playroom and study, well ventilated and lighted

VENTILATION

In addition to the windows there is an auxiliary system of ventilating grilles. In the bathroom, the outside air enters from beneath the house through a grille in the floor and then passes out through grilles at the side of the skylight. In the kitchen there is a wall grille at the floor and an adjustable ventilator in the ceiling. In the living room one wall grille is placed near the parents' bed and another at the corresponding position on the opposite wall. This auxiliary system assures a constant circulation of fresh air.

WINDOWS

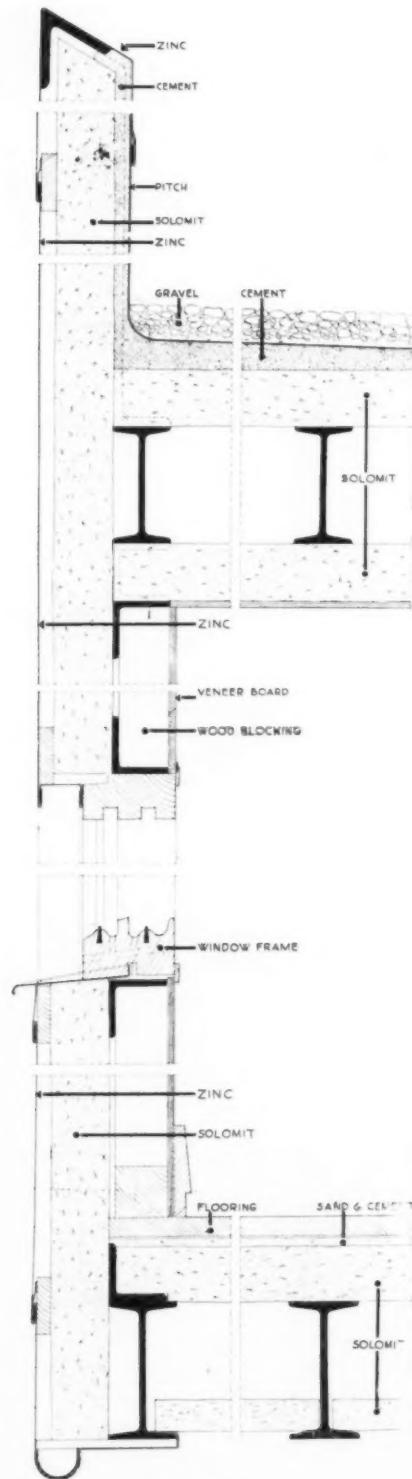
The windows take a form which evolves from the construction. The exterior walls are not supporting and are free of the columns which support the house, giving what is called a "free facade". This fact allows the windows to be a continuous horizontal

band of glass stretching from wall to wall or, if necessary, all around the house. In Europe the customary type of window is the casement which, when opened, encumbers more or less the interior. The windows of this house are the sliding type, standard units 8'-3" in length, each unit containing two sliding sashes.

The window openings are contiguous to the lateral walls so that the walls act as strong reflectors for the light and aid in carrying it farther into the room. Experiments with buildings already constructed have demonstrated that windows contiguous to the walls give a light to the interior of the room that is stronger and more uniform in quality than that given by a number of isolated windows. The larger area of glass also allows more light.

CONSTRUCTION

In working out the construction the factor of economy was the determinant.



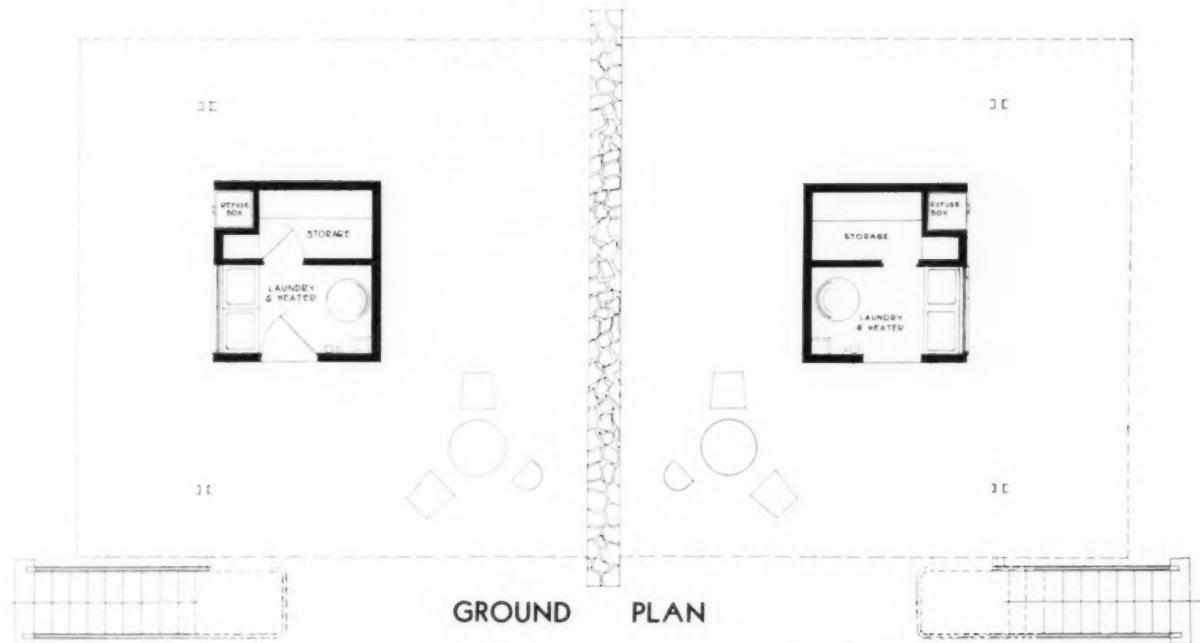
CONSTRUCTION DETAIL
A MINIMAL HOUSE
LE CORBUSIER AND P. JEANNERET
ARCHITECTS

Cheap materials and cheap construction are not rational solutions of the problem. Materials and methods should be the best. The real solution lies in industrializing them, in designing a construction that will allow the greater portion of the work to be accomplished in the factory, thus reducing to a minimum the work done on the site. Steel was selected for the main structural members. For each house there are two columns formed by coupled channels, placed well within the line of the exterior walls. At the same level and against the party walls are channels. The steel floor beams rest on the channel at one end. Between these channels, at floor and roof levels, are I-girder beams, cantilevered out to the exterior walls. At the same levels and against the party walls are channels. The steel floor beams rest on the channel at one end and are cantilevered out beyond the I-girder beam at the other. The structure of the exterior wall is a light cagework of 2" angles.

Since the walls are no longer supporting, their only function is to be impermeable against the weather and to act as insulation against temperature changes. Other than masonry, which has the defects of excessive weight and great labor cost, there is no single material (as yet developed) which combines adequately the two properties of impermeability and insulation. It was decided therefore to use two materials, each of which would possess one of these qualities. For the insulation, a 2" thickness of *Solomit* was selected: this is placed on the outer face of the steel angles and fastened to wood blocking. To protect the *Solomit* against fracture and to make an impermeable surface, plates of sheet zinc are laid on the exterior, with wood stripping between the *Solomit* and the zinc.

The interior finish is painted veneer board. The result is a wall that is light in weight, thin in section, and easily constructed, with better insulating and impermeability qualities than masonry.

The floors and roof are similar in construction, except that the roof is finished



A TWO-FAMILY MINIMAL HOUSE
LE CORBUSIER AND P. JEANNERET, ARCHITECTS

with layers of cement and an asphalt compound applied on top of the *Solomit*.

The exterior stair is of light weight steel construction. The horses and railing are steel tubing; the treads and landing, steel plates. The entire stair is assembled at the factory and mounted in place simply by bolting or riveting it to the first step which is of concrete.

The great advantage of this system is the ease of construction. In the first place most of the labor can be performed at the factory. Secondly, the house is not "built": in reality, the different elements are mounted into place. The construction proceeds quickly and cleanly for little, if any, water is needed. Dry construction is the most rapid and the most economical. Thirdly, the various elements of the house can be fabricated at the factory and shipped to any part of the country, ready to be assembled.

The only masonry used in the building is the small construction on the ground level

and the party wall. The intrusion of this masonry party wall is quite curious, for there is no essential structural reason for its existence. It is merely a necessary and temporary concession to the local stone-masons, giving them some work.

PURPOSE AND COST

This house was first developed to satisfy the Loucheur Law, under which the French government will offer loans to prospective builders and home owners in addition to the loans the banks will give.

The house was designed for the least expensive class of workmen's dwellings under this law.

The cost, including all equipment, plumbing, heating, folding beds, closets and the like, is estimated at 39,000 francs (\$1,560), provided that at least a hundred houses are constructed at one time. If produced in greater quantities, this cost will be even less.

NORMAN N. RICE



HERBERT CROLY, 1869-1930
EDITOR OF THE ARCHITECTURAL RECORD, 1900-1906

It is difficult to analyze the traits of a friend, a process that requires a cool detachment. When I think of Herbert Croly, affection fills my thoughts, and to try to recall his architectural interests is to recall, first and last, our frequent conversations in which professional ideas, if I may so describe them, were lost in the extraordinarily wide vision of the man. But from these very conversations and his writings in *THE ARCHITECTURAL RECORD* twenty-odd years ago, there comes back to me one vivid memory which helps me, as an architect, to pay tribute to his name. It is of his remarkable solidarity with the art we so often discussed, the insight, so unusual in the layman, to look at architecture from the architect's point of view.

An architectural theme was not, for him,

merely an episode in the day's work. He cared for the subject, was keen upon its right development in this country and sensitive to all its aspects. He looked deeply into these, too. "It is the idea in a work of art that is striven after," was one of his convictions, and it was this feeling of his for the true, organic meaning of architecture that made him a useful interpreter of it. He had a way of making himself thoroughly familiar with the various categories in this art, and could write with equal effectiveness about city or country houses, clubs and all sorts of public buildings, not excluding theaters. It was of a badly designed theater that I remember his writing. "It belongs to the numerous group of the American architectural hybrid." That remark was characteristic of Herbert Croly in its forthright expression of disapproval. He was often a caustic critic. But I know that what gave him the highest pleasure was writing of good work.

He had ceased to contribute regularly articles on architecture when the skyscraper and the various exigencies of the zoning laws were producing their astonishing effect on the aspect of the modern city. These things I know excited him and he was filled with the hope that some great good to architecture would come of these economic necessities.

My concern at the present time, however, is as to his writings at earlier times. Then he wrote generously, and understandingly and with a clear recognition of historic standards. In the domain of sociology he was a progressive, as we all know. . . . Addressing an audience that embraced the professional and the layman, he appealed to both in favor of good taste. Writing at a period in which American architecture was being transformed he held fast to tried principles and urged discrimination. I come to think of my old friend as having made a most valuable contribution to the highest ideals of architecture.

CHARLES A. PLATT

(Reprinted by courtesy of the *New Republic*, of which Mr. Croly had been editor since its foundation in 1914.)

ARCHITECTS' LIBRARY

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ARCHITECTURE, THE NEW YORK PUBLIC LIBRARY

ARCHITECTURE

GARNER, THOMAS AND ARTHUR STRATTON

The domestic architecture of England during the Tudor period, illustrated in a series of photographs and measured drawings of country houses and other buildings; with historical and descriptive text. 2nd edition. New York: Charles Scribner's Sons, 1929. 2 vols. Front., illus., plates. f°. \$65.00. 724.12.

English edition published by Batsford, in London. First edition, 1910.

This second edition has smaller format, an addition of some twenty houses and a "rearrangement of subjects into groups determined by the dominant material used in their construction." Thoroughly indexed.

HUSSEY, CHRISTOPHER

The old homes of Britain: the southern counties; Kent, Sussex, Hampshire, Surrey and Middlesex. London: Country Life, 1928. 80 p. 80 illus., map. f°. 5s. 728.

Short discussion of the general characteristics of English domestic architecture from the period of the castle to that of Adam. Then follow notes on each house illustrated. The plates are large size and clear.

SMALL, TUNSTALL, & C. WOODBRIDGE

Mouldings of the Wren and Georgian periods; a portfolio of full size sections. London: The Architectural Press, 1928. xv p. 20 plates. f°. 8s. 6d. 729.3.

"In compiling this portfolio of full size sections of unenriched Wren and Georgian mouldings, we have made a general selection of authentic contours taken from good domestic work of these periods."—Preface.

Shows panel moulds, handrails, architraves, cornices, with their measurements and source.

SVENSEN, CARL LARS, AND E. G. SHELTON

Architectural drafting. New York: Van Nostrand Co., Inc., 1929. ix, 206 p. Illus., plans. 8°. \$2.00. 744.

A text book which deals with architectural details, constructions, plan drawings and the applications of architectural drafting.

TERRASSE, CHARLES

Médersas du Maroc. Paris: Albert Morancé, 1928. 35 p. Illus., 70 plates. 4°. 150 fr. 720.96.

Essay on the architectural features of the Médersa, a Mohammedan college attached to the mosque, where students are lodged. Includes a detailed description of each Médersa. The seventy plates are photographs of exteriors, interiors and details of decoration.

ALLIED ARTS

GEERLINGS, GERALD KENNETH

Metal crafts in architecture, bronze, brass, cast iron, copper, lead, current developments, tin, lighting fixtures, specifications. New York: Charles Scribner's Sons, 1929. vi, 202 p. Front., illus. f°. \$7.50. 721.

Bibliography, p. 199.

A discussion of the history, craftsmanship, usage and design of various metals as used in architecture. The plates show both historic and modern examples, and are well-indexed.

SIMONS, WILLIAM L.

Furniture for today, and tomorrow, with details, scale drawings and pen and ink sketches. New York: Architectural Book Pub. Co., 1928. 80 plates. \$10.00. 729.

A series of eighty measured drawings illustrating furniture and its detail. No text.

SOCIÉTÉ DES ARTISTES DÉCORATEURS, PARIS

Intérieurs au Salon des artistes décorateurs, Paris, 1928, présentés par René Prou. Paris: Charles Moreau, 1928. 8 p. 48 plates. f°. 100 fr. 747.

Forty-eight plates, of which six are in color, illustrate contemporary domestic and a few office interiors. These examples suggest a tendency toward an increasing complexity of design.

STUTTMAN, FERDINAND

Deutsche Schmiedeeisenkunst. Band V: Gegenwart. München: Delphin-Verlag, 1928. 20 p. Illus., 56 plates. f°. 45 marks. 721.

Examples of recent German wrought iron, both ecclesiastical and domestic, with illustrations of screens, doors, gates, stair-rails, fireplace accessories and lighting fixtures. Volumes 1 and 2 of this title, published in 1927, show the work of the Middle Ages and of the Renaissance and early Baroque periods.

VERNEUIL, MAURICE PILLARD

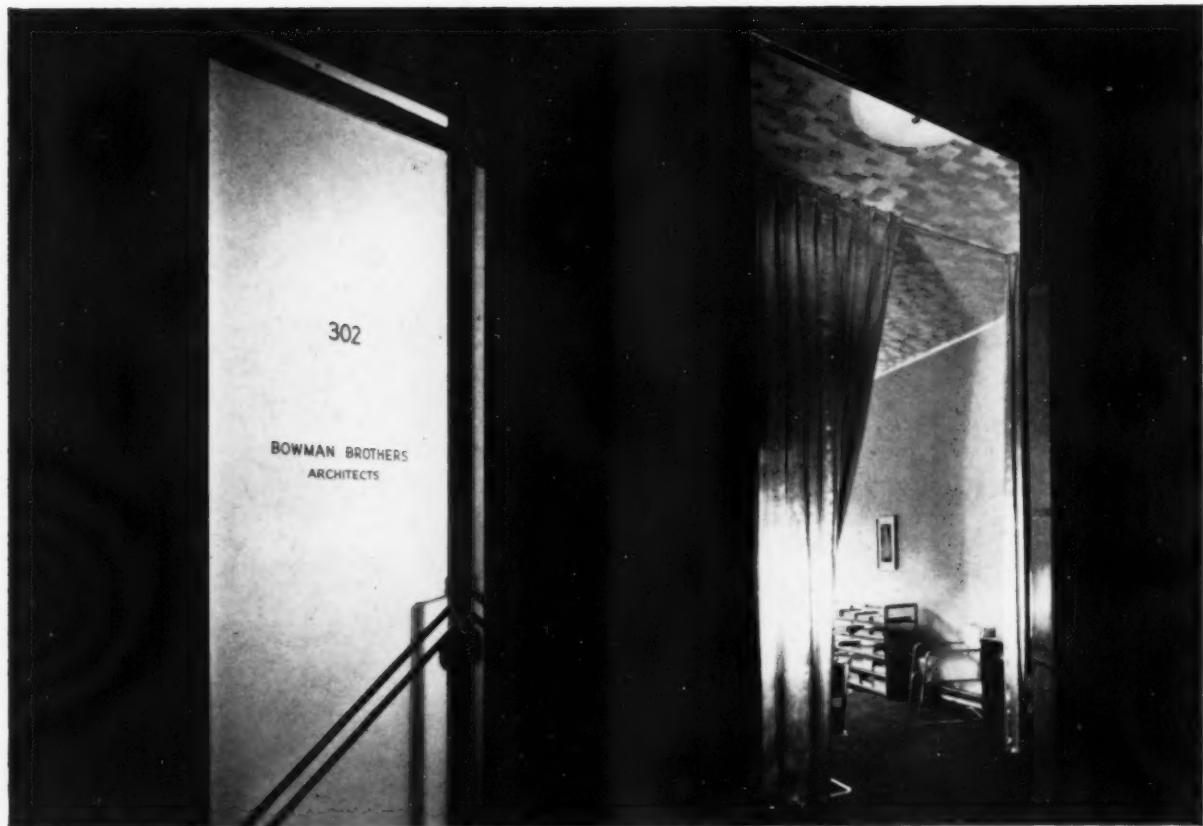
Carl Milles, sculpteur suédois: suivi de deux études: Bildhauer Carl Milles par Walther Unus: the art of Carl Milles par Charles Marriott. Paris: Van Oest, 1929. 2 vols. Illus. 128 plates. 500 fr. 735.

A detailed study and appreciation of the work of this contemporary Swedish sculptor. The second volume is a collection of excellent plates.

VIRETTE, JEAN

Intérieurs modernes et rustiques. Paris: Alexis Sinjon, 1928. 4 p. 56 plates. f°. 120 fr. 747.

Current work of twenty contemporary French architects, illustrating the decoration of ships and the interiors of both town and country homes.



DOOR TO PRIVATE OFFICE

Chromium metal and sand-blasted glass . . . Lighting is obtained by three ceiling fixtures, composed of four tubular lamps each, and three panels of glass of various sizes placed close enough to the ceiling to prevent their being seen from any part of the room . . . The large curtain provides privacy when the door is open as well as absorbing sound vibration.

PORTFOLIO OF CURRENT ARCHITECTURE

FEATURING
ARCHITECTS' OFFICES •



VIEW OF ANTE-ROOM

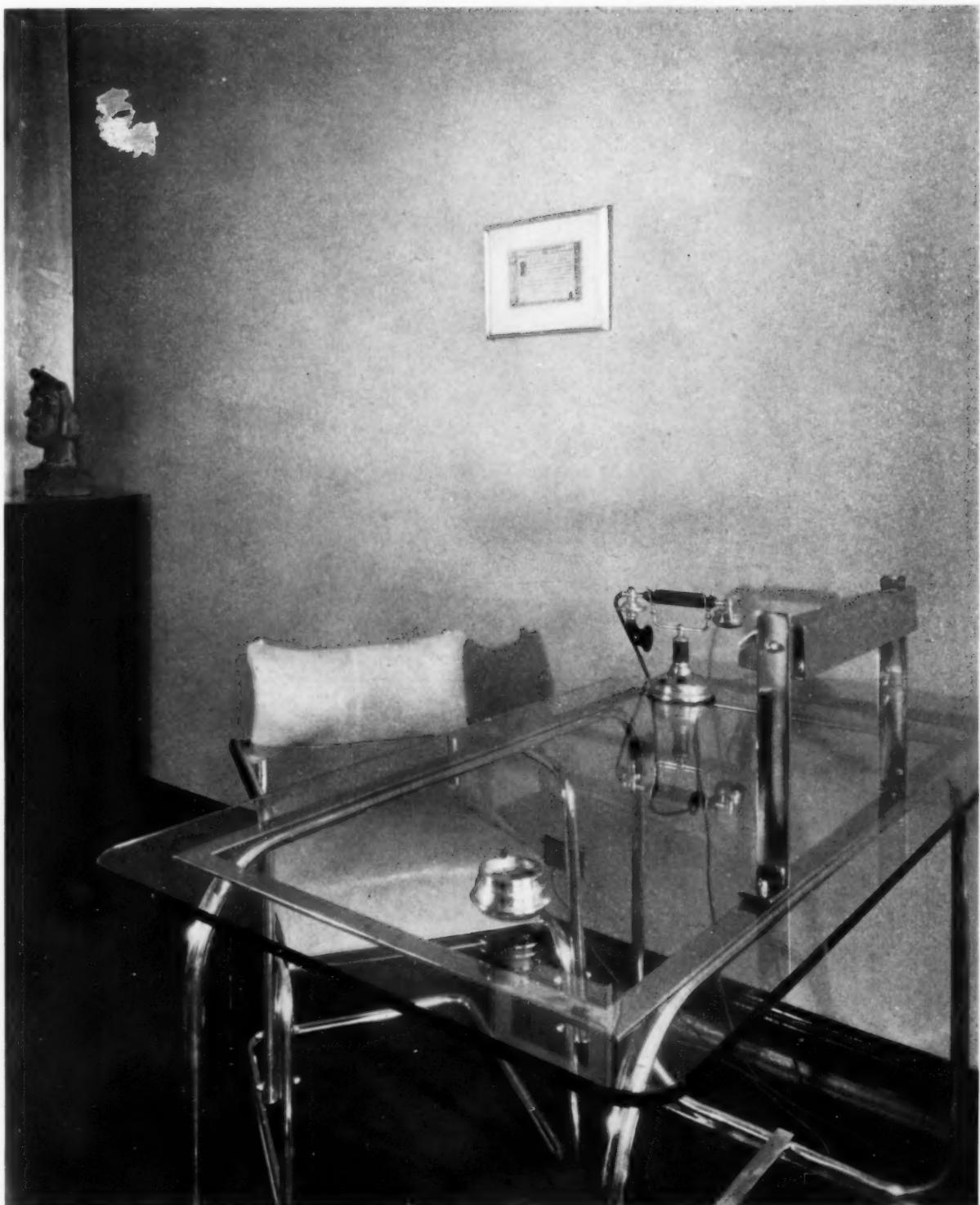
Draperies are silver satin, hung double . . .
Walls are azure blue fabricoid . . . Ceiling
is a Swiss silver tekko paper . . . On the
Floor is a black carpet on $1\frac{1}{2}$ " lining.

OFFICE OF
BOWMAN BROTHERS, ARCHITECTS
CHICAGO, ILL.



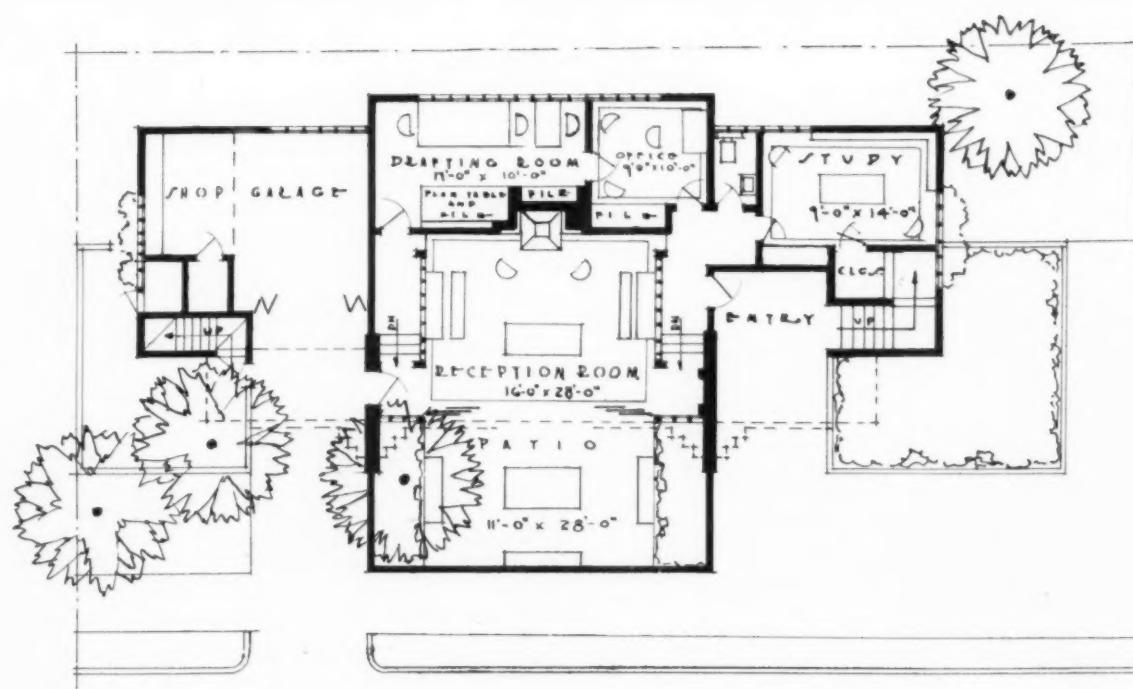
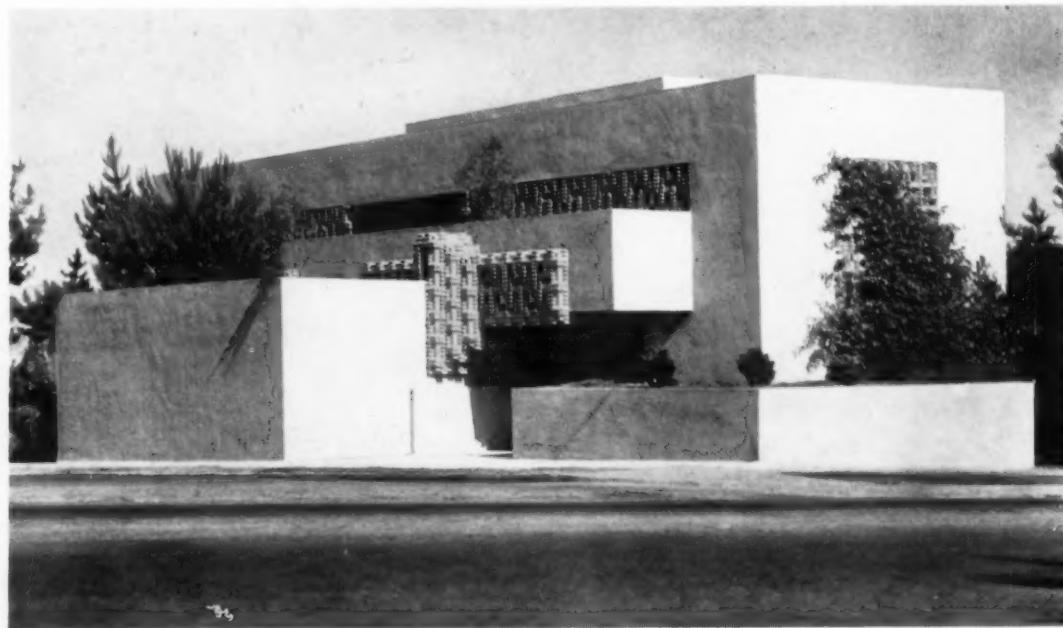
OFFICE OF
BOWMAN BROTHERS, ARCHITECTS
CHICAGO, ILL.

The bookcase is composed of glass shelves supported on lightweight angles, chromium-plated . . . Walls are decorated with few pictures or drawings so as not to be restless in effect . . . The chairs are of steel tubing, chromium-plated with heavy-pigskin seats and backs.



Desk of steel tubing, chromium - plated, with heavy plate glass top. Drawers and cubby-holes are eliminated to prevent accumulation of various items in a disorderly manner during the day. No maintenance other than dusting required . . . Lighting is obtained by a lamp trough reflector fastened to the desk with a swivel joint.

OFFICE OF
BOWMAN BROTHERS, ARCHITECTS
CHICAGO, ILL.



FIRST FLOOR PLAN
SCALE $1/8$ - 10'

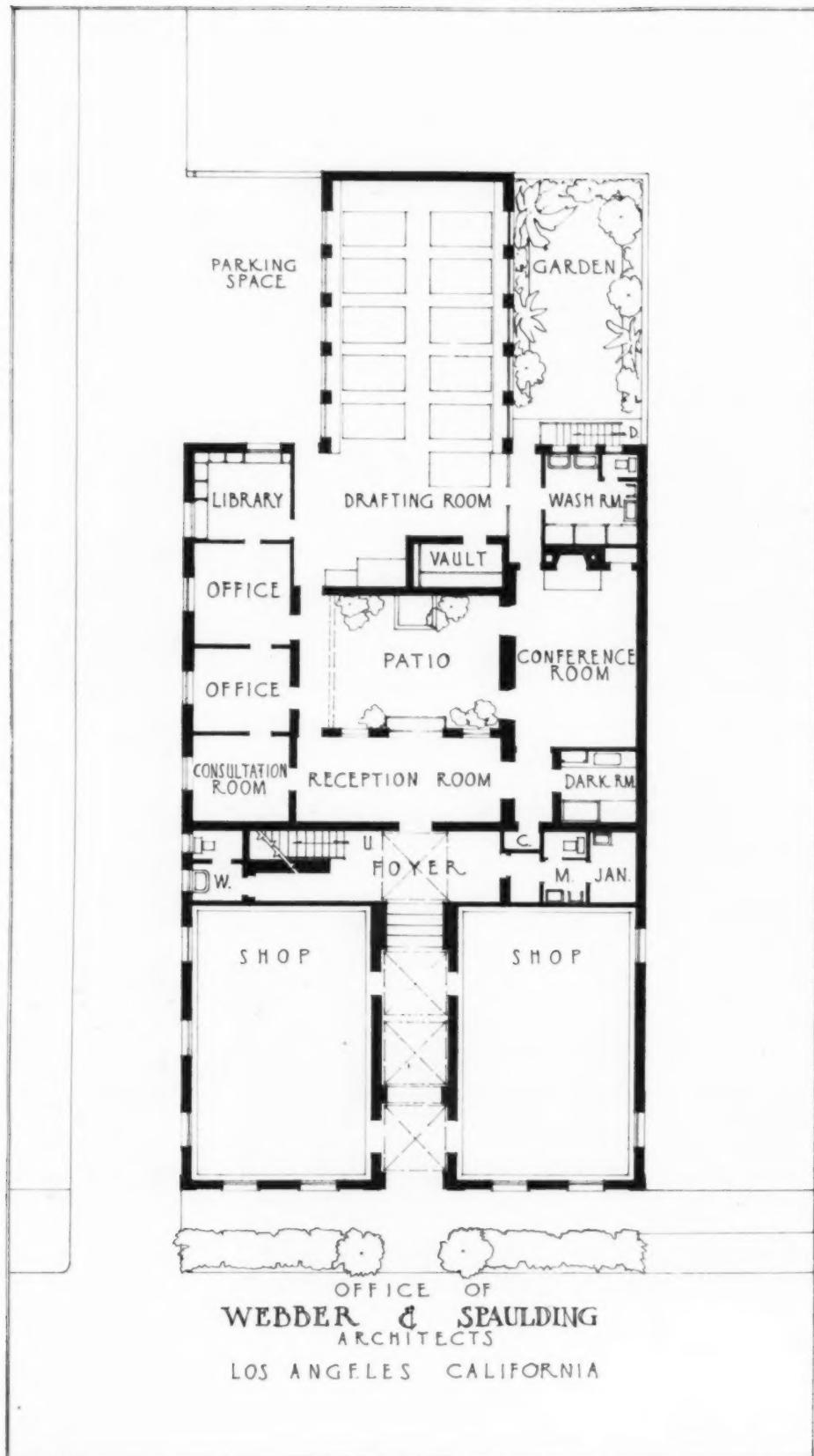
STUDIO OF LLOYD WRIGHT ARCHITECT LOS ANGELES CALIF.

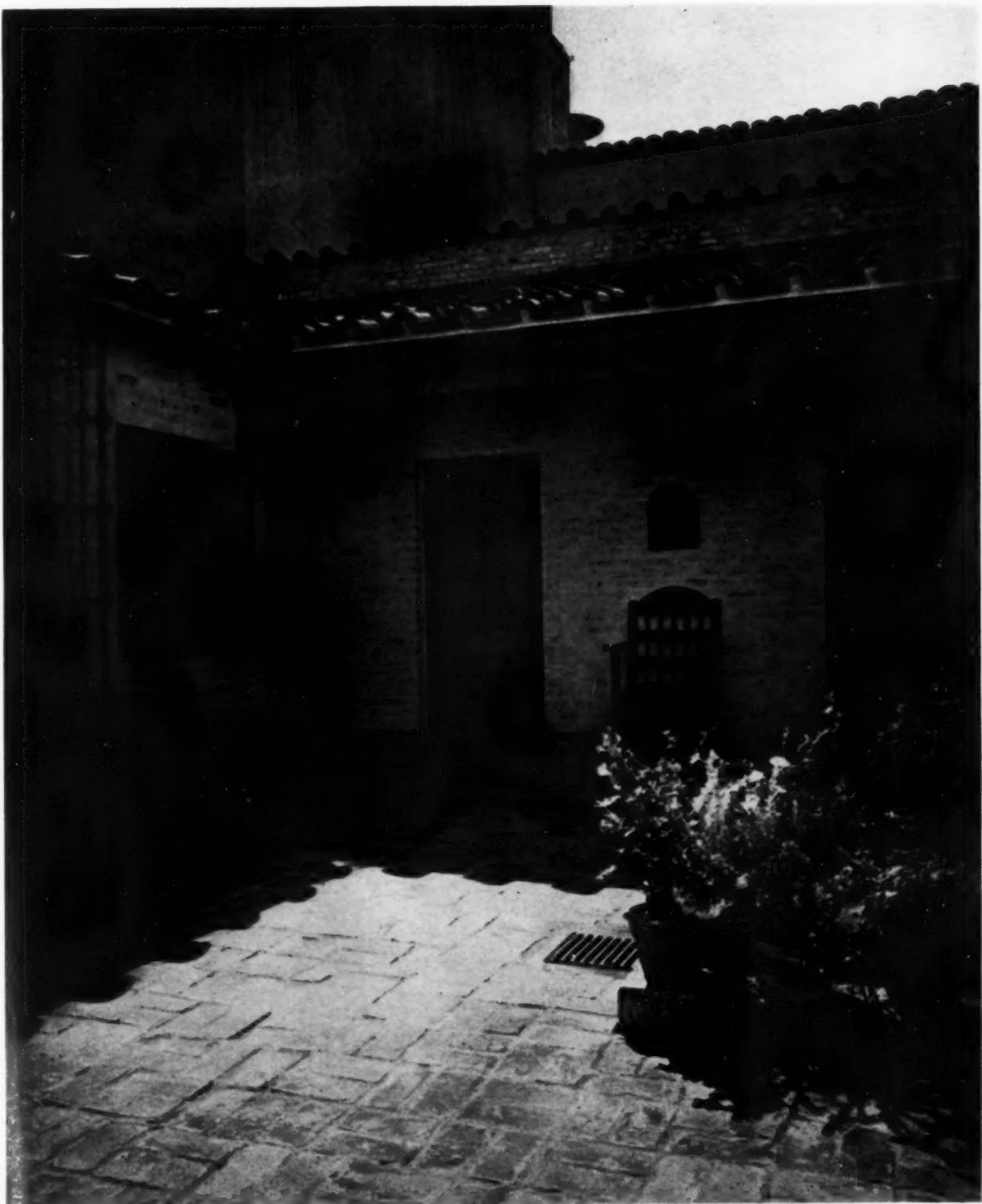


OFFICE EXTERIOR ↑ ↓ DRAFTING ROOM



OFFICE OF
WEBER AND SPAULDING, ARCHITECTS
LOS ANGELES, CALIF.





Photo, Clarke

PATIO

OFFICE OF
WEBER AND SPAULDING, ARCHITECTS
LOS ANGELES, CALIF.

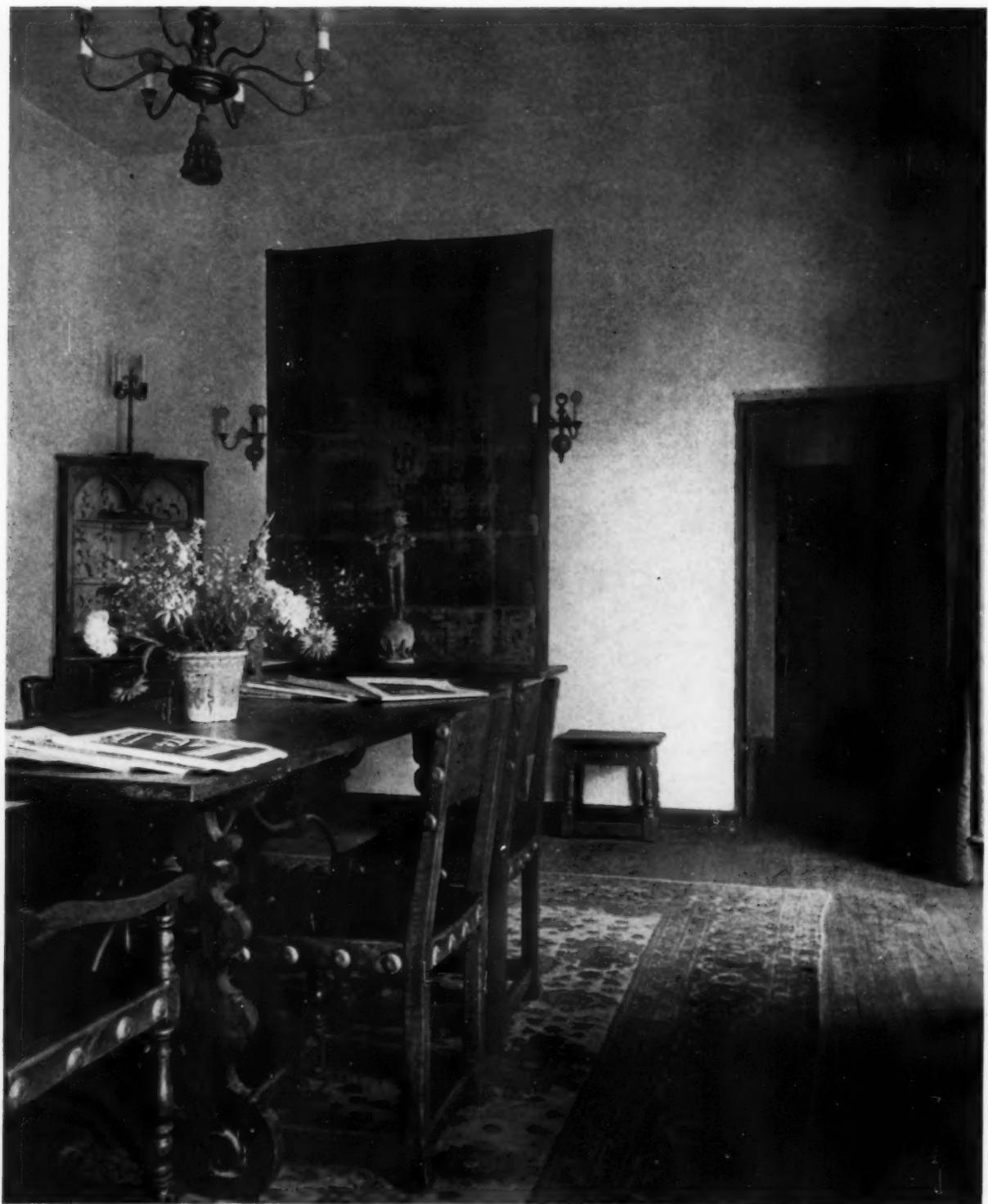


Photo. Clarke

OFFICE OF
WEBER AND SPAULDING, ARCHITECTS
LOS ANGELES, CALIF.

CONFERENCE ROOM

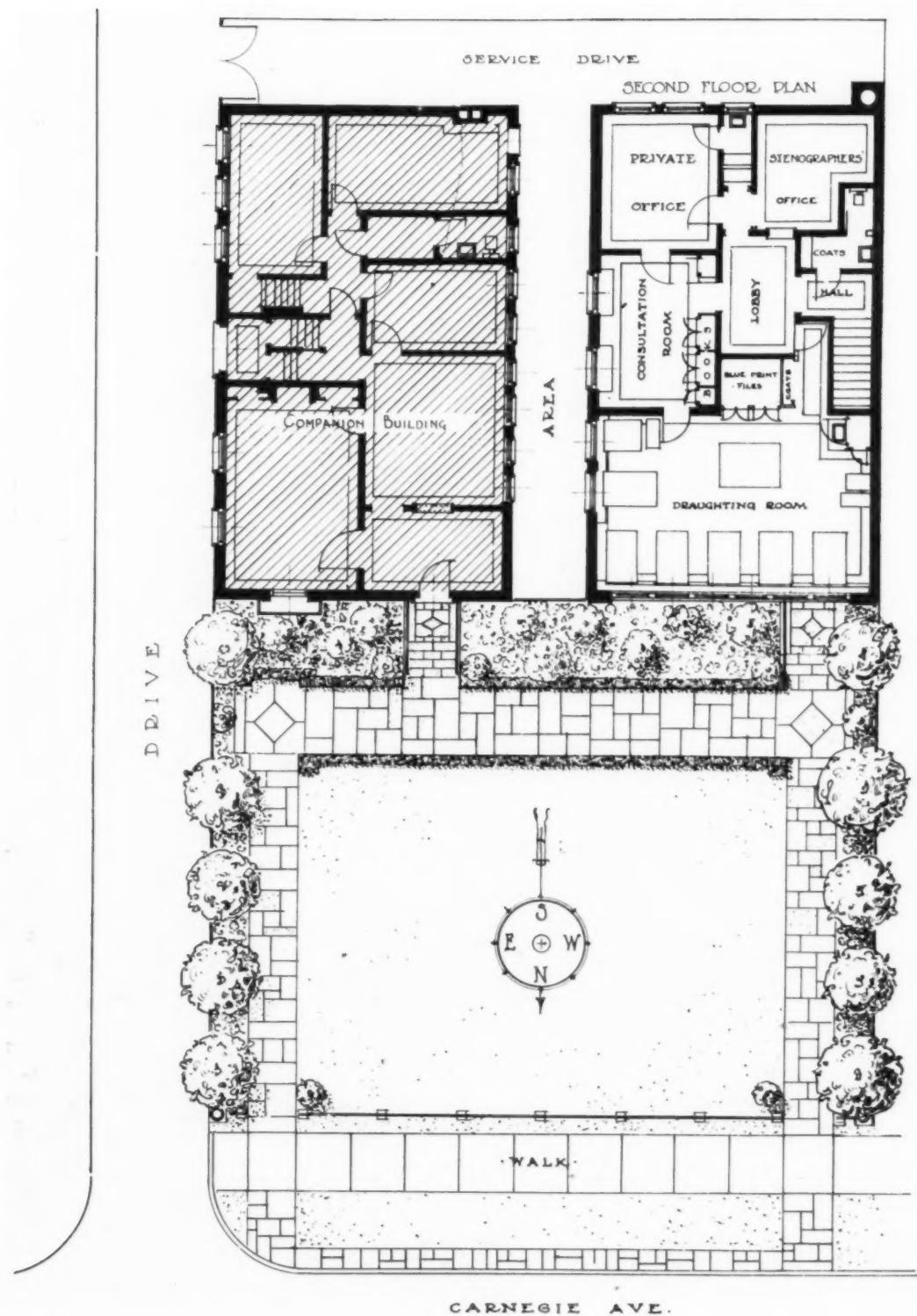


Photo, Howlett

OFFICE BUILDING

Designed by Howell and Thomas,
architects, who occupy the neighbor-
ing companion building.

OFFICE OF
PITKIN AND MOTT, LANDSCAPE ARCHITECTS
CLEVELAND, OHIO



OFFICE OF
PITKIN AND MOTT, LANDSCAPE ARCHITECTS
CLEVELAND, OHIO



Photo, Burke-White

OFFICE OF
PITKIN AND MOTT, LANDSCAPE ARCHITECTS
CLEVELAND, OHIO



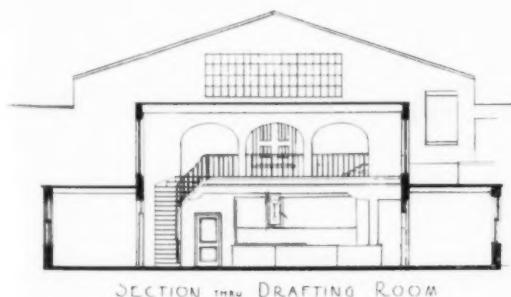
Photo. Hewett

OFFICE OF
PITKIN AND MOTT, LANDSCAPE ARCHITECTS
CLEVELAND, OHIO



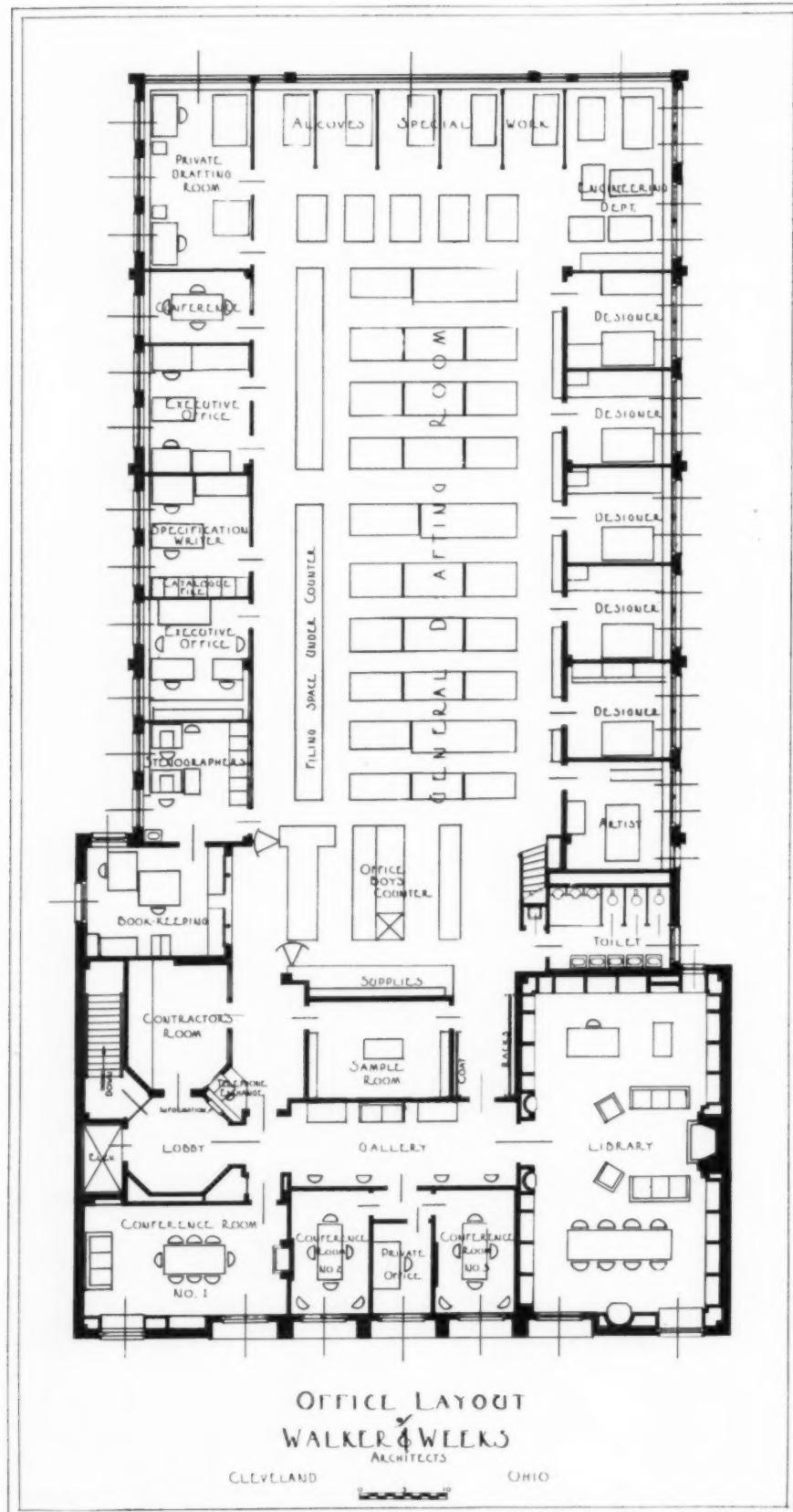
Photo, Lazearnick

DRAFTING ROOM FROM STUDIO BALCONY
OFFICE OF WALKER AND WEEKS, ARCHITECTS
CARNEGIE BUILDING
CLEVELAND, OHIO



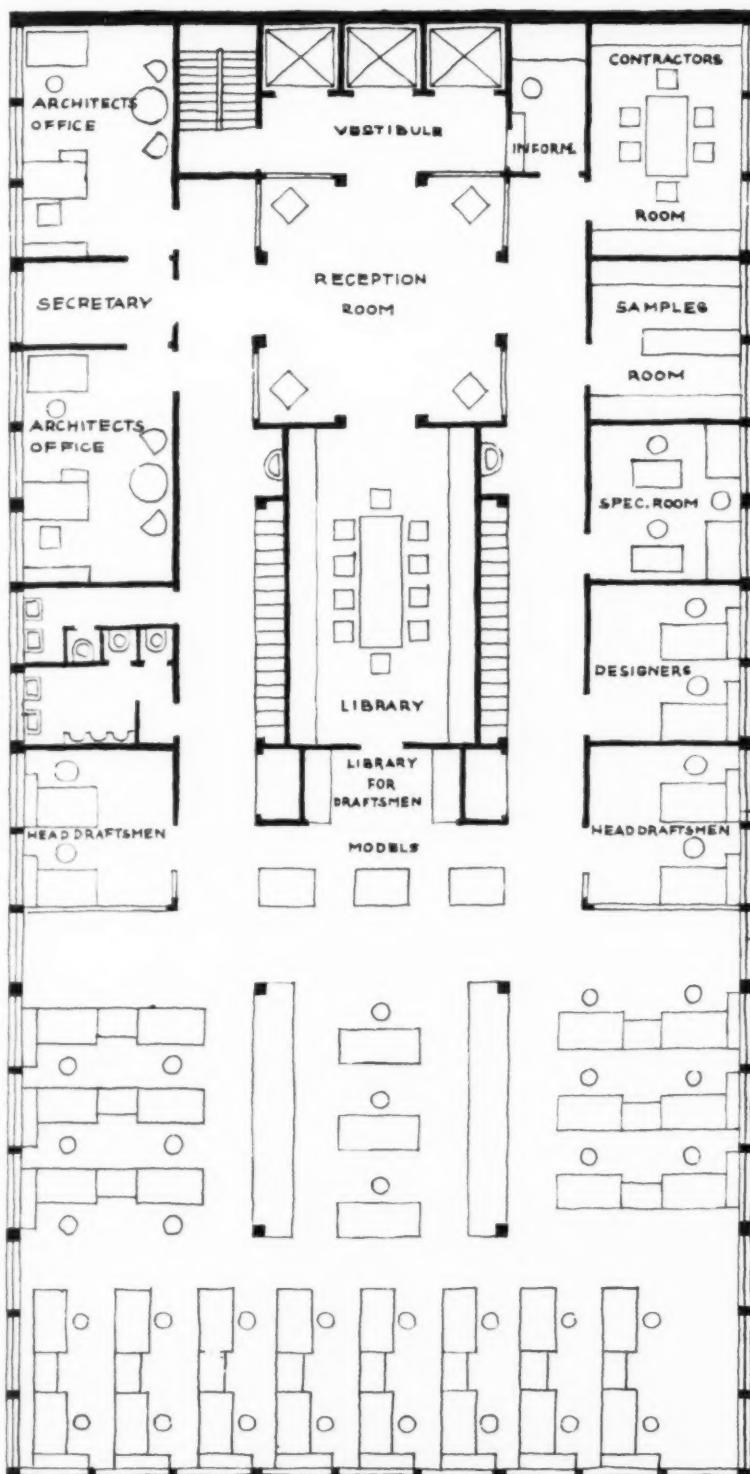
SECTION THRU DRAFTING ROOM





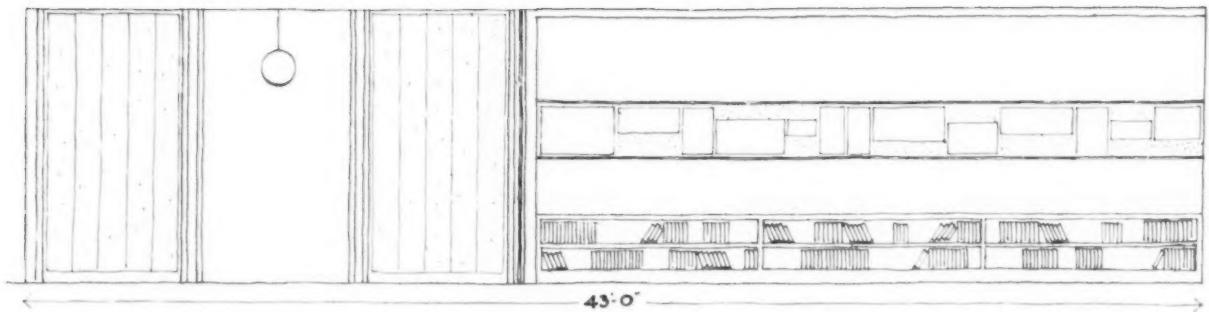
Each job or commission is placed in charge of an executive and a designer with a job captain and suitable corps of draftsmen. The six designers' offices are located opposite those of the executives in charge, with the drafting force for the job between them. All drawings are maintained in files in the drafting room and made readily accessible to the executives, designers and draftsmen.

TYPICAL FLOOR PLAN FOR A LARGE ARCHITECTURAL OFFICE



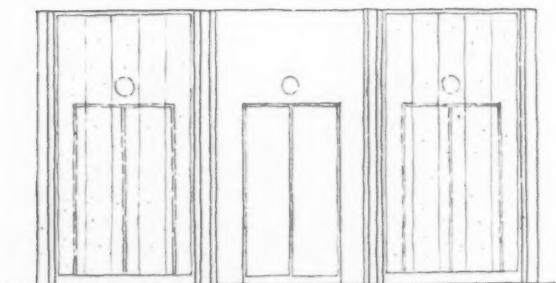
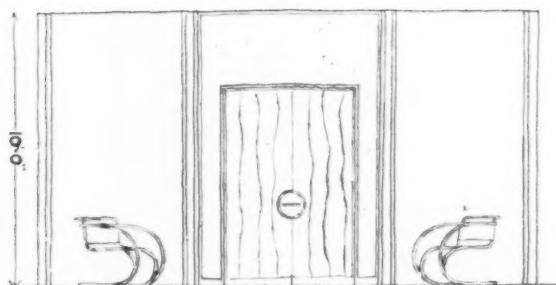
DESIGNED FOR
THE ARCHITECTURAL RECORD
BY HELMUT HENTRICH,
ARCHITECT

The firm of two members is assumed to employ 30 draftsmen in addition to the head draftsmen, specification writers, designers and others. The aim was to give each man as much outside light as possible. Consequently the reception room and library are placed inside and illuminated artificially.

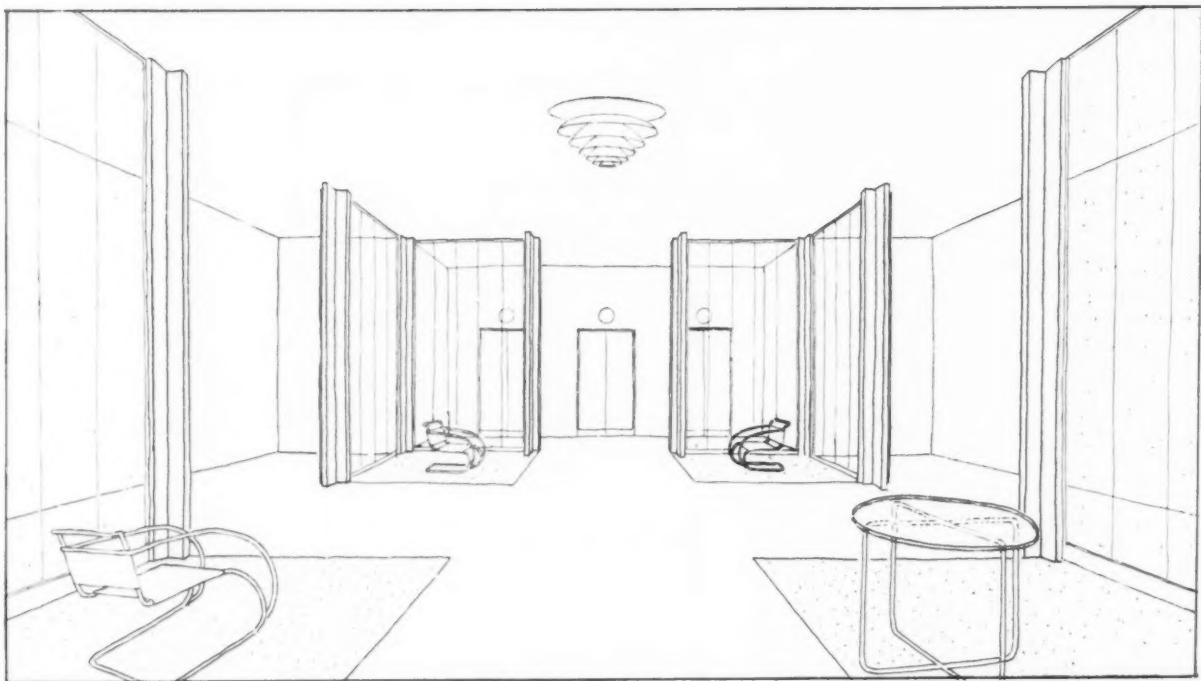


AN ARCHITECTURAL OFFICE, HELMUT HENTRICH, ARCHITECT

The library is painted a light color. Overhead light through frosted glass as shown on next page. Table top is plate glass. Chairs are of MR (Mies van der Rohe) design, steel chromium-plated. Along the walls above the bookcases cork boarding permits the display of photographs and plans of executed buildings.



Walls of the reception room are of colored transparent glass. The wall between library and reception room is of opaque glass. The glass is held in place by aluminum-plated steel columns. Floor in black and gray linoleum. Illumination from PH lighting fixture. Chairs and tables are of MR (Mies van der Rohe) design.



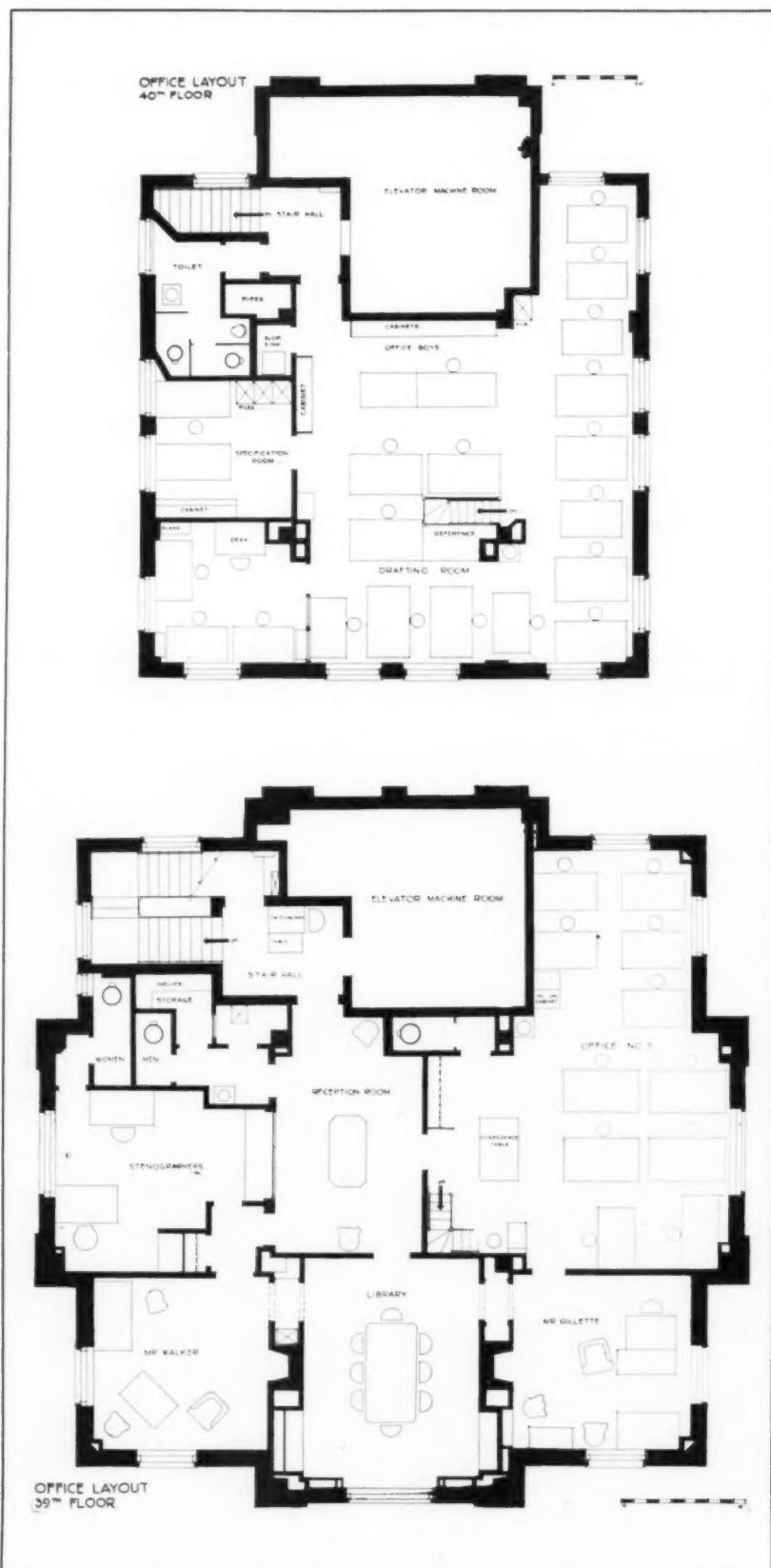
RECEPTION ROOM



LIBRARY

AN ARCHITECTURAL OFFICE, HELMUT HENTRICH, ARCHITECT

" . . . On the lower floor is the entrance hall where the telephone operator receives visitors, also the general business office, library and private offices. . . On the floor above is a private room for the specification writer. In one corner the heads of the drafting room have their tables and one stenographer takes care of their messages and letter writing. We find this arrangement works out much better than any we have had before, as the stenographer can relieve the job captains of much detail . . . The filing of drawings is done in specially made pasteboard boxes, except for current jobs."



OFFICE OF
WALKER AND GILLETTE
ARCHITECTS
NEW YORK

THE UNIVERSITY BRIDGE AT PHILADELPHIA

PAUL P. CRET
ARCHITECT

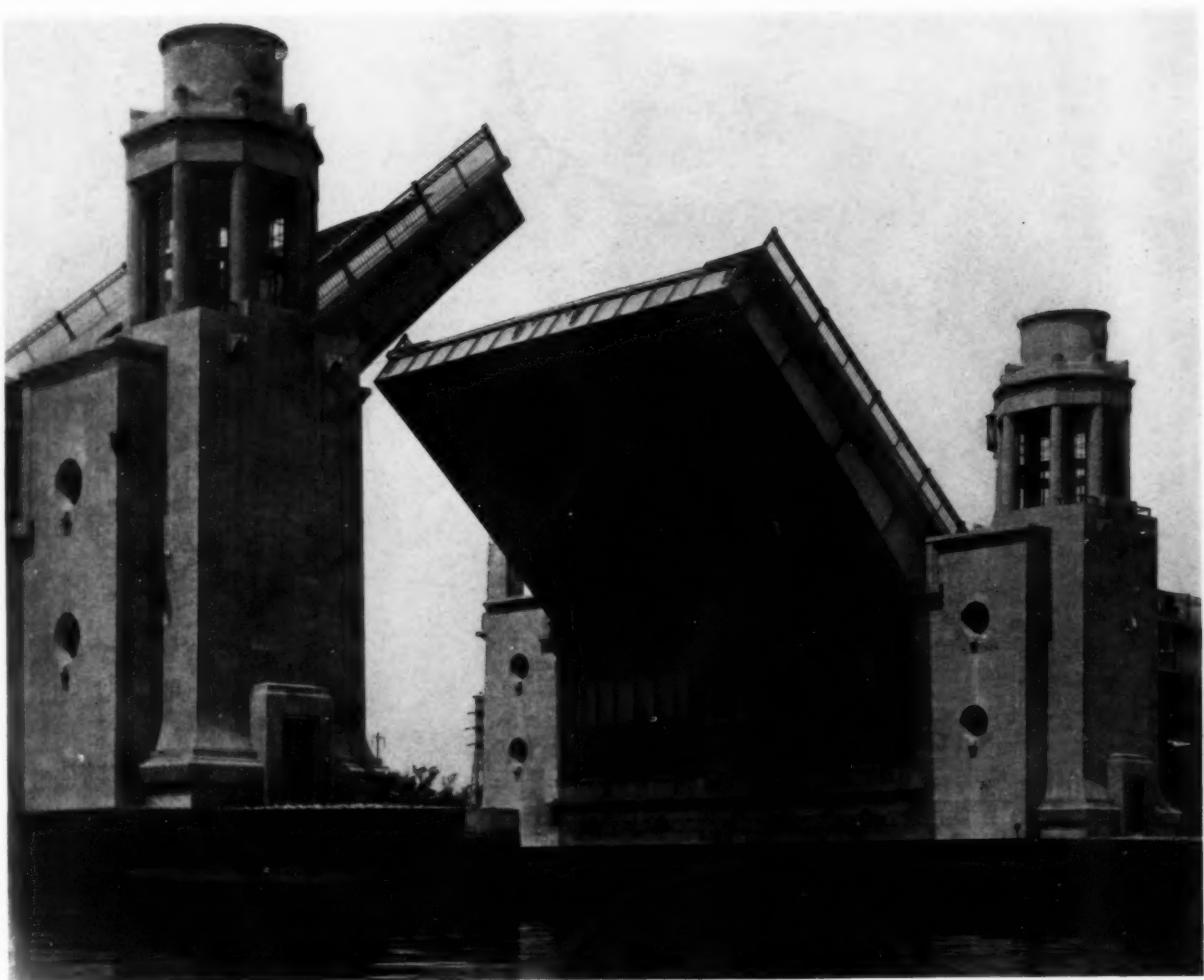


Photo. Rittase

DRAWGATES

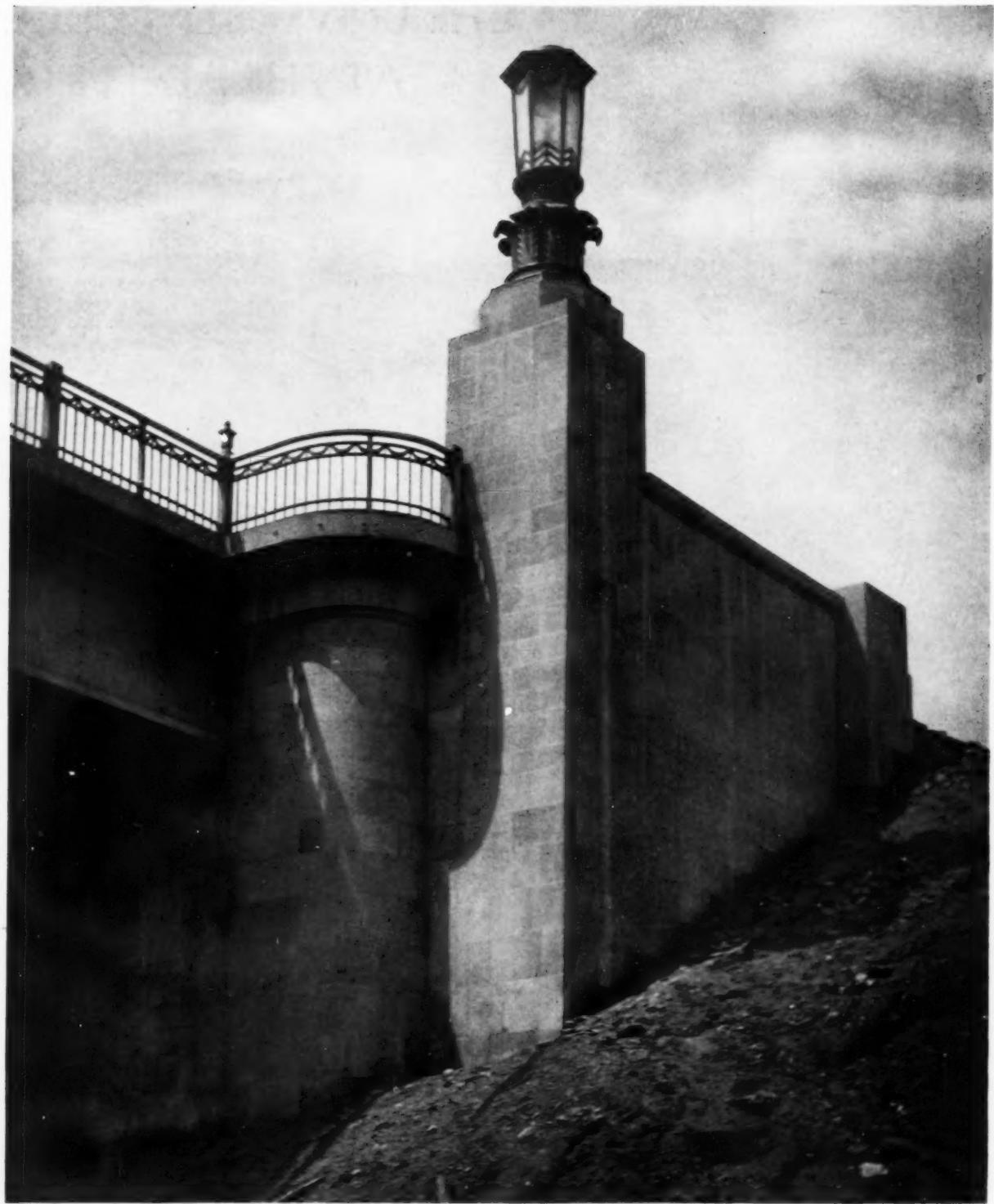


Photo. Rittase

THE UNIVERSITY BRIDGE AT PHILADELPHIA
PAUL P. CRET, ARCHITECT

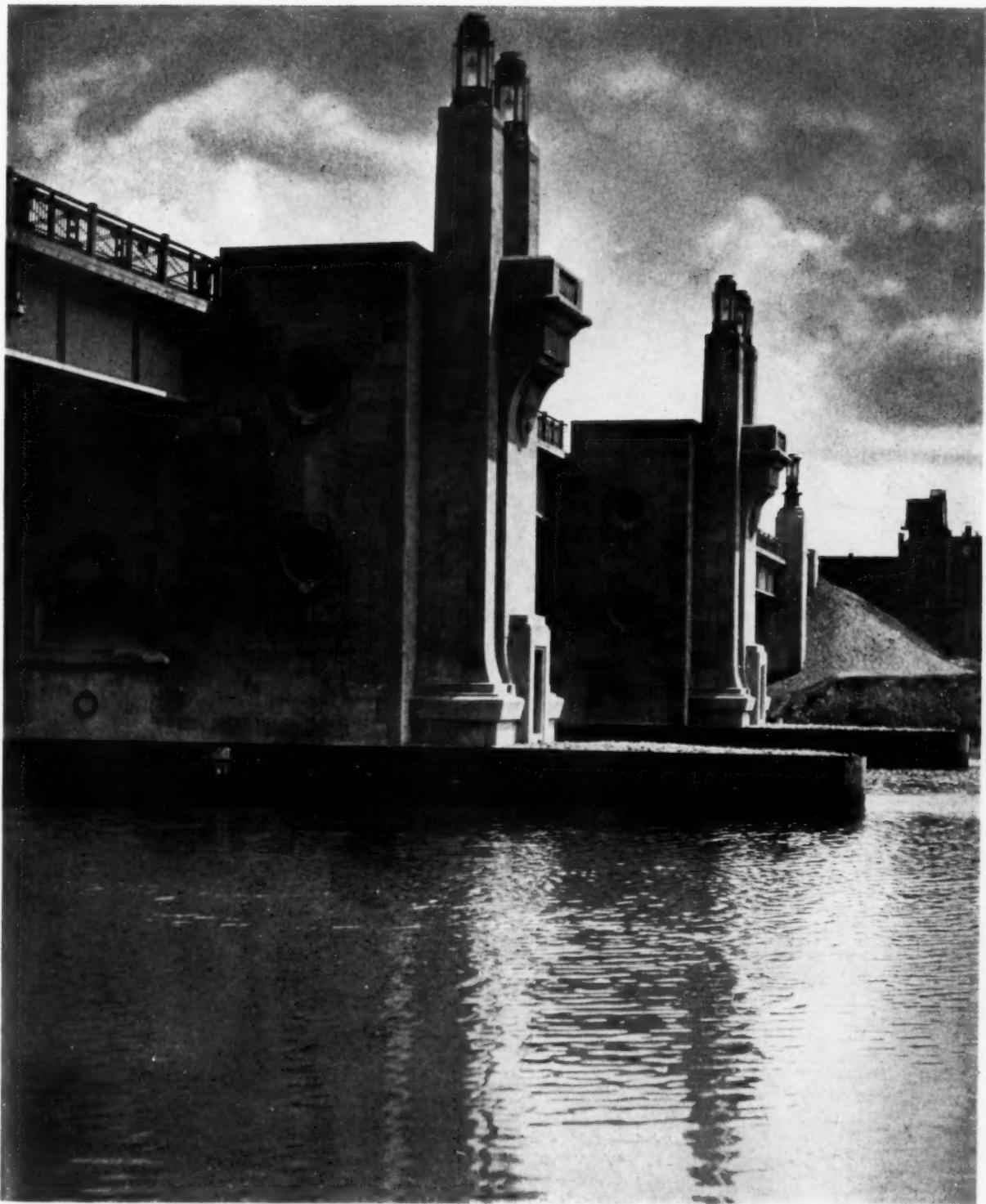


Photo. Rittase

THE UNIVERSITY BRIDGE AT PHILADELPHIA
PAUL P. CRET, ARCHITECT



Photo, Rittase

THE UNIVERSITY BRIDGE AT PHILADELPHIA
PAUL P. CRET, ARCHITECT

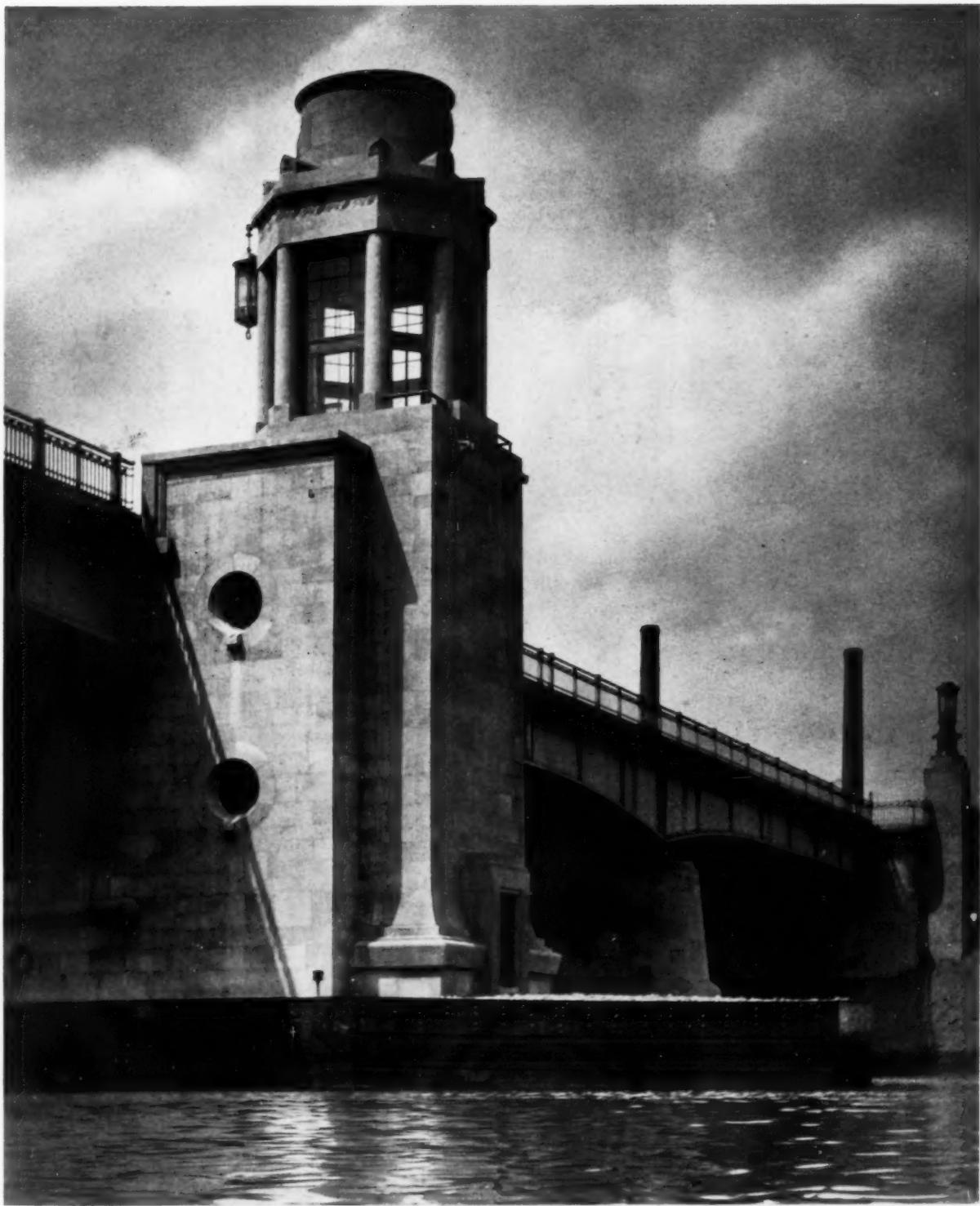


Photo. Rittase

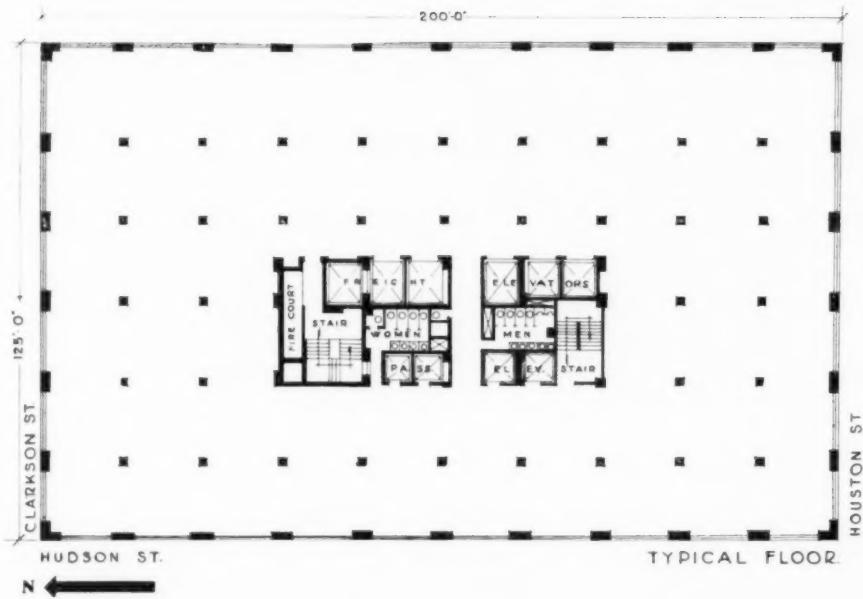
THE UNIVERSITY BRIDGE AT PHILADELPHIA
PAUL P. CRET, ARCHITECT



Photo, Rittase

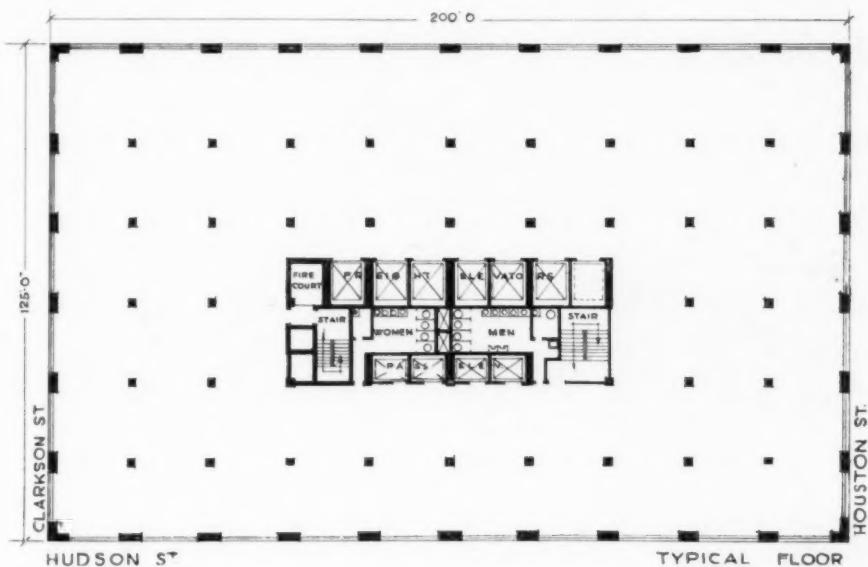
THE UNIVERSITY BRIDGE AT PHILADELPHIA
PAUL P. CRET, ARCHITECT

NOTES ON DRAFTING AND DESIGN



TYPICAL SOLU-
TION FOR THE
LOFT BUILDNG

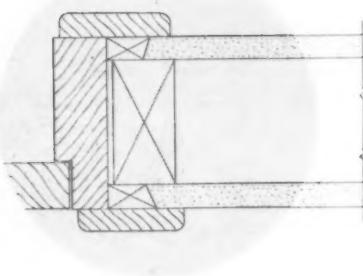
Floor plan studies of a proposed building for offices and heavy manufacturing in a vehicular tunnel section of Manhattan. Passage, stairway and facilities to occupy minimum of floor area and permit subdivision of floors with a minimum waste of cargo space. Toilets and stairs arranged for a maximum occupancy of 240 persons per floor. Plot is 200' x 125'. Three sides of building face on streets and one on low public building insuring permanent light on upper floors. Distance between columns is 20' and farthest distance from daylight from 40' to 50'. Floor area is 25,000 and total area 400,000 square feet, the building being 16 stories high.



VICTOR MAYPER
ARCHITECT

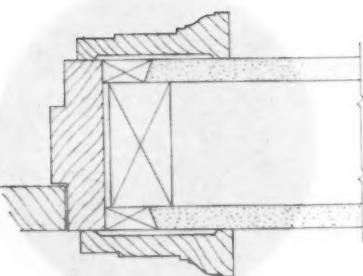
ARCHITECTURAL MORPHOLOGY

EVOLUTION OF DOOR FRAME CONSTRUCTION



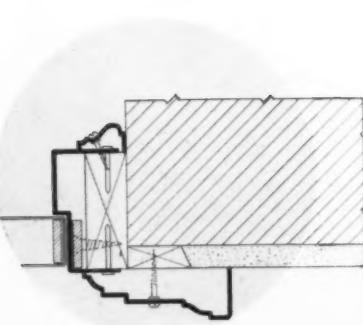
1

Wood construction. Unity of purpose, construction, tools, material, and form. Six separate units. Complex construction. Simple tools.



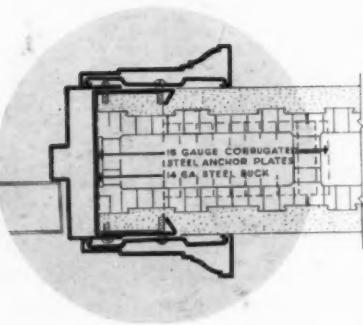
2

Arbitrary forms derived from stone architecture imposed on the construction. The projecting forms have not added anything to the purpose of the frame or to the ease of construction.



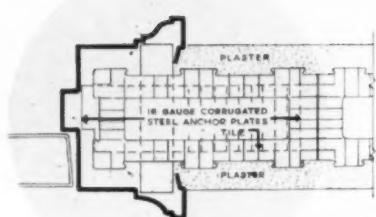
3

Steel door and frame with wood buck. The steel construction follows the traditional wood construction (use of screws). Gain: increased fire resistance and elimination of shrinkage. But the construction involves two trades and has become more complicated. Poor anchorage.



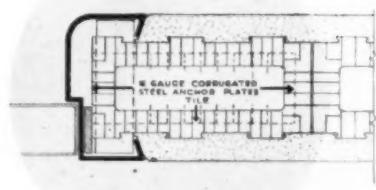
4

All steel construction. New materials do not necessarily generate new forms. The conventional forms, arbitrarily passed on from stone over wood to steel have only been slightly modified by the new tools and by the limitations of the new material (the slightly rounded corners). Good anchorage. The concealed clip-fastening an innovation conditioned by the new material. Complex construction. Complex tools.



5

UNITRE frame. Elimination of material. Buck, frame and casing one unit erected with the wall. The arbitrary forms still remain although slightly simplified.



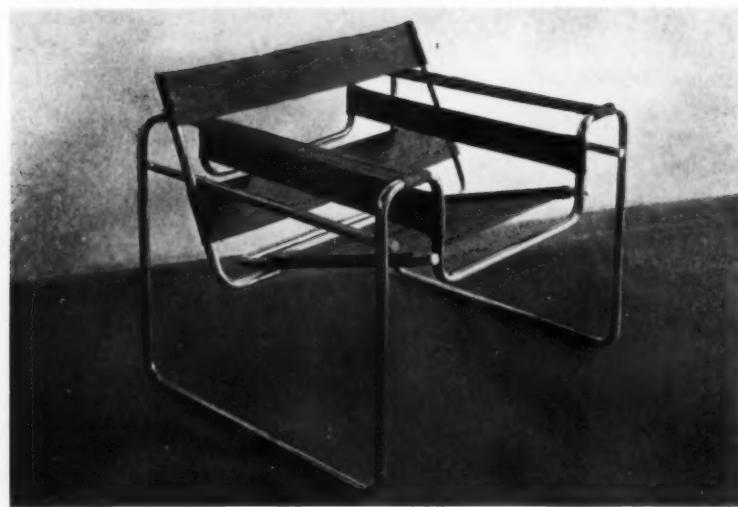
6

UNITRE frame. Again: unity of purpose, construction, manufacturing process, material, and form. A good solution of a clearly stated problem. Instead of six separate units—one fireproof, non-shrinking, factory made unit, erected as an integral part of the wall with a minimum of material and labor. Simple construction. Complex tools.

Below: Metal profiles from a manufacturer's catalog. Left: Architectural profiles. An indefinite number of variations of the same arbitrary form elements. Right: Profiles for showcases, display windows, etc. A great variety of forms created by clearly stated problems and determined by this specific purpose, construction, material, and tools.



English chair, 17th century



Steel chair by MARCEL BREUER
Bauhaus Dessau, Germany, 1926



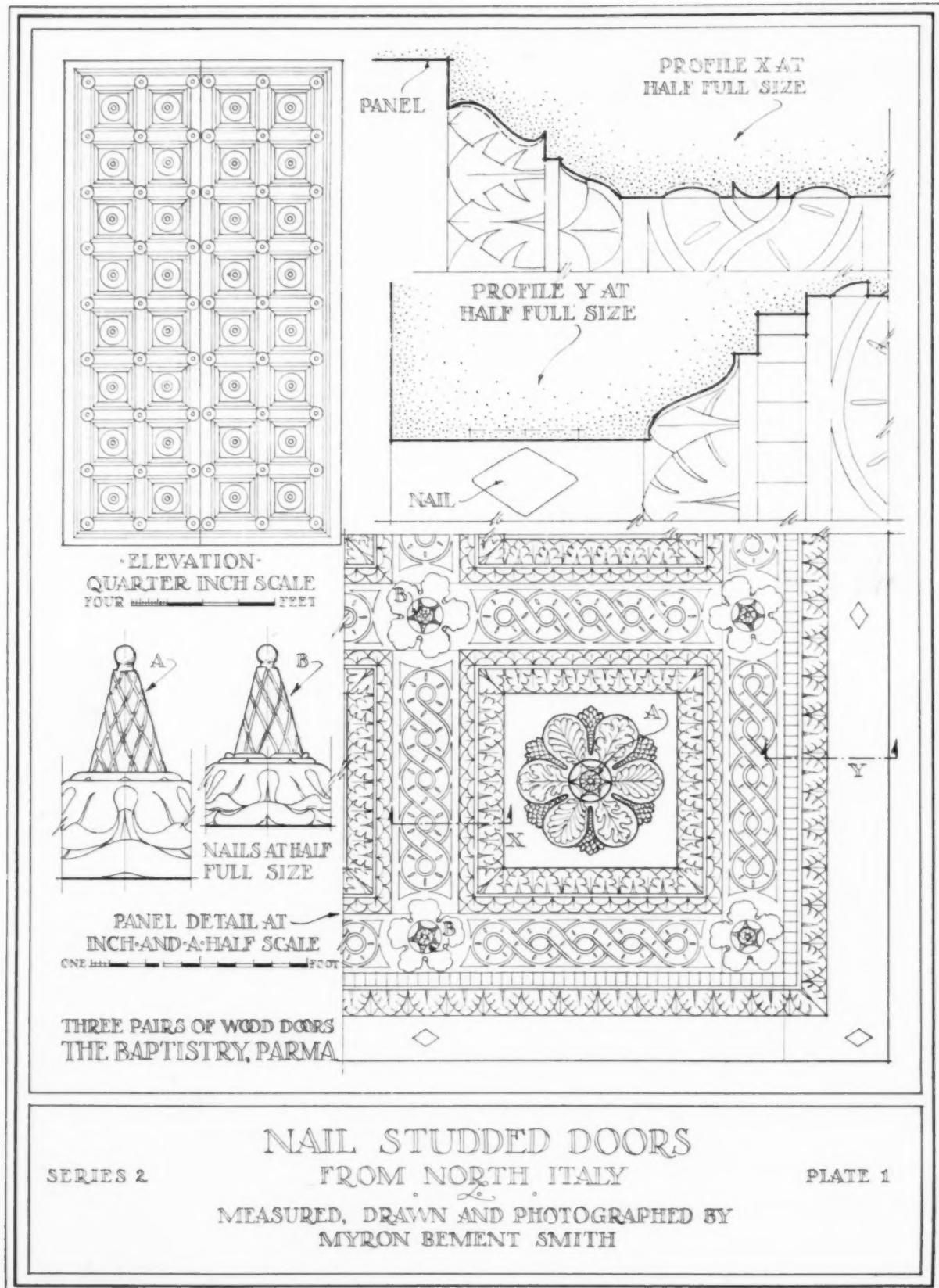
GENERAL VIEW

RENAISSANCE DOORS
FROM THE BAPTISTRY, PARMA, ITALY

NAIL STUDDED DOORS FROM NORTH ITALY

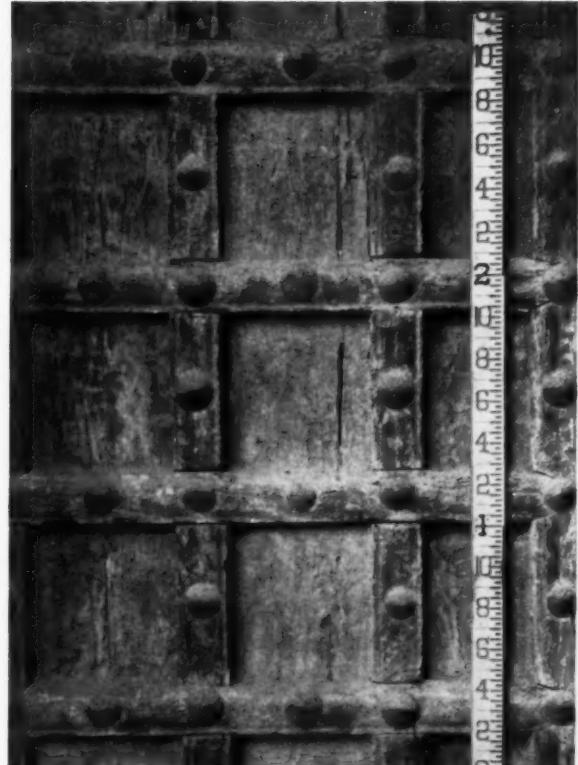
Second Series. (First series appeared in the June, 1930 issue)

MEASURED, DRAWN AND
PHOTOGRAPHED
BY MYRON BEMENT SMITH

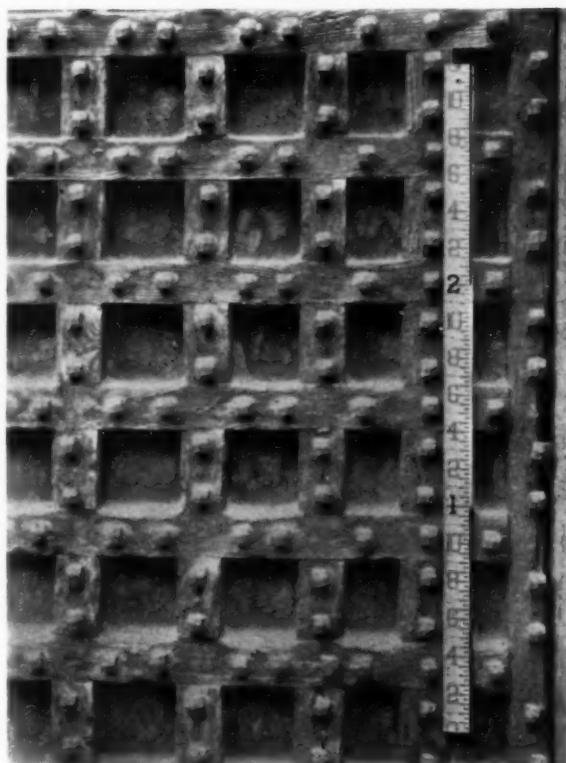




DETAIL OF LEFT DOOR,
THE CATHEDRAL, PIACENZA



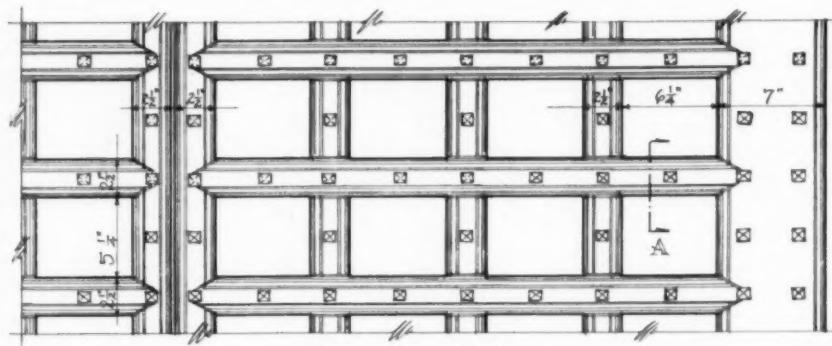
DETAIL OF RIGHT DOOR,
THE CATHEDRAL, PIACENZA



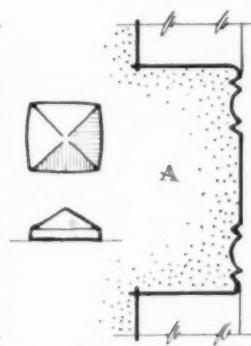
DETAIL OF DOOR,
S. FRANCESCO, BRESCIA



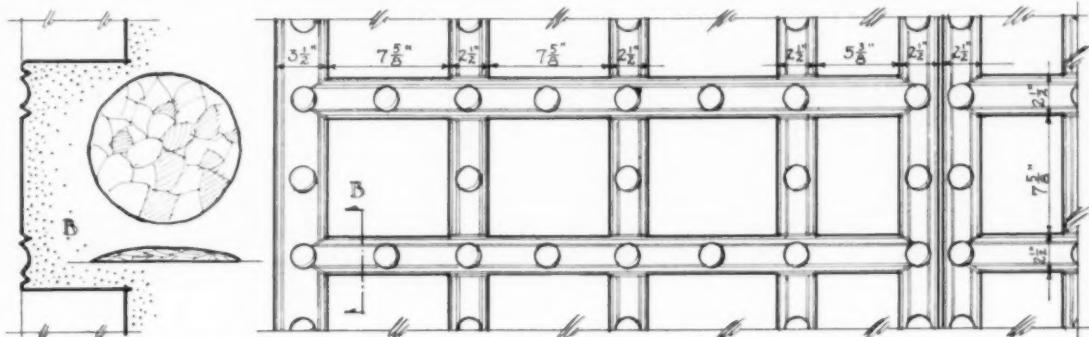
GENERAL VIEW OF DOORWAY,
S. FRANCESCO, BRESCIA



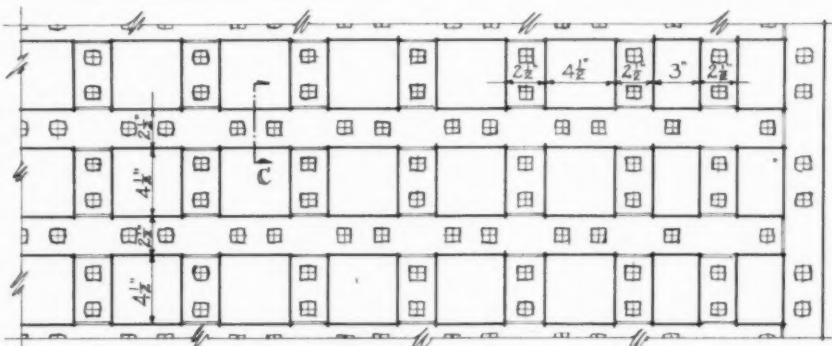
ONE INCH SCALE
THE CATHEDRAL, PIACENZA



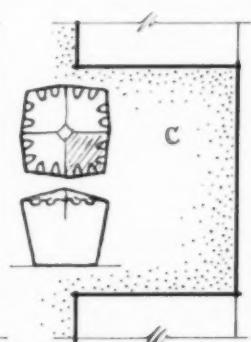
NAIL AND PROFILE
AT HALF FULL SIZE



ONE INCH SCALE
THE CATHEDRAL, PIACENZA



ONE INCH SCALE
S. FRANCESCO, BRESCIA



NAIL AND PROFILE
AT HALF FULL SIZE

SERIES 2

NAIL STUDDED DOORS
FROM NORTH ITALY
MEASURED, DRAWN AND PHOTOGRAPHED BY
MYRON BEMENT SMITH

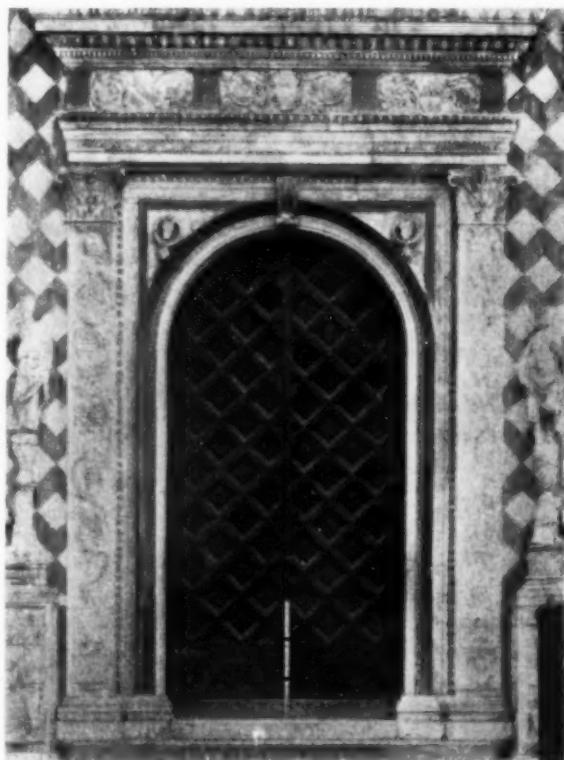
PLATE 2



GENERAL VIEW OF DOORWAY,
THE CATHEDRAL, CREMA



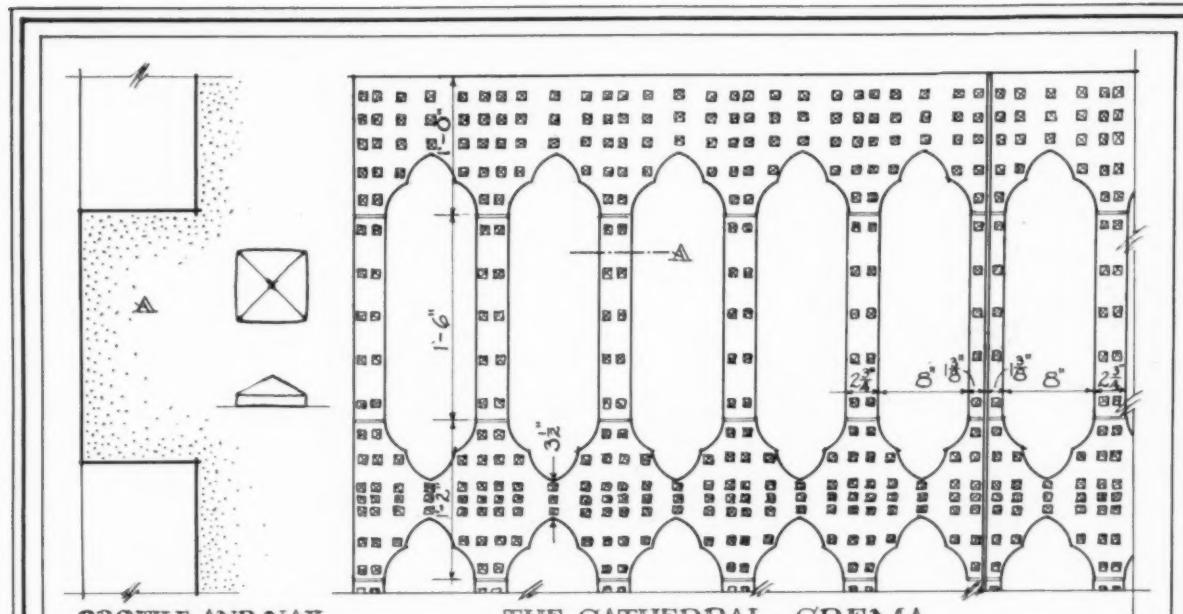
DETAIL OF DOOR,
THE CATHEDRAL, CREMA



GENERAL VIEW OF DOORWAY,
COLLEONI CHAPEL, BERGAMO



DETAIL OF DOOR,
COLLEONI CHAPEL, BERGAMO



PROFILE AND NAIL
AT HALF FULL SIZE

THE CATHEDRAL, CREMONA
THREE-QUARTER INCH SCALE
TWO FEET



NAILS
AND
PROFILE
AT HALF
FULL
SIZE

B

NAIL STUDDED DOORS
FROM NORTH ITALY
SERIES 2. MEASURED, DRAWN AND PHOTOGRAPHED BY
PLATE 3
MYRON BEMENT SMITH



Griffiths

THE ARCHITECTURAL RECORD: AUGUST
TECHNICAL NEWS AND RESEARCH

THE WEEK-END HOUSE
BY KNUD LÖNBERG-HOLM

NEXT MONTH
RESTAURANTS, CAFETERIAS, COFFEE SHOPS



Underwood and Underwood



Galloway



Galloway

The week-end flight from the city to the country is a logical human reaction to the social and spatial pressure of the large city.



Galloway

THE WEEK-END HOUSE

By K. LÖNBERG-HOLM

PURPOSE

The week-end in the country provides for:

1. *A friendly and unselfish contact with nature.*
2. *Sunlight and fresh air.* (Physical health.)
3. *Relief from the congestion and pressure of the city.* (Sport, physical expansion.)
4. *A necessary balance to the increasing demands and restrictions of a commercial, competitive society.* (Psychological expansion.)

DEFINITION

The week-end house is the minimum stationary setting for a family life reduced to its simplest terms in close contact with sun, soil, and sky and freed from obsolete social and architectural forms. It is not a city residence transferred to the country, nor a suburban bungalow reduced in scale.

DESIGN CRITERIA

1. *Maximum direct contact with nature.*
2. *Minimum spatial pressure (not a box).*
3. *Maximum protection against insects, temperature, rain, and inquisitive persons.* (The log cabin was an adequate protection against hostile natives and wild animals. Wire screens are sufficient protection against mosquitoes.)
4. *Maximum ease and safety of life.*
5. *Minimum cost of construction and maintenance.* (Carrying charges operate the entire year against the limited and short occupancy.)
6. *Maximum plastic unity with surroundings.*



Galloway



World Wide Photos

1910



1930



Bonney



Bonney

Light, open structures. The right setting for a life in close and friendly contact with nature.

STOCKHOLM EXPOSITION 1930

LOCATION AND SITE

The choice of location and site should be governed by a survey covering:

1. *Climatic conditions and surrounding nature.* Suitable exposure. Proper amount of shade. Trees offer a valuable protection from winds, but if the forest is dense, the air movement is reduced to such an extent as to interfere with comfort. Underbrush, weeds and tall grass should be removed from the immediate house site, because they offer shelter to mosquitoes and flies.
2. *Topography and soil texture.* The topography of the site should be such that the slopes are steep enough to permit rapid drainage of surface water during rains. Week-end houses to be occupied in the summer preferably should be located on hillsides with an eastern exposure, while those occupied in winter should be located on hillsides with a southern exposure. An eastern exposure is valuable because the sleeping quarters will be exposed to the early morning sun without the necessity of exposing the house to the hot afternoon sun. For this reason it is desirable to locate the house on the western shores of lakes or larger streams, where it may be protected on the west by woods or by shade trees.
3. *A soil texture that readily absorbs water is necessary to maintain a dry site. A porous soil is therefore preferable. The character of the soil and the subsurface formations have an important bearing upon the quality and the quantity of ground water available.*
3. *Distance from residence and accessibility.* Means, cost and time of transportation. The site should be remote, but accessible.
4. *Distance from highways and neighbors, and size of site.* The house should be surrounded by protective vacant area, which will furnish necessary privacy.
5. *Available facilities.* Water, food supplies, sewage disposal, etc.
6. *Cost or rent of site.*
7. *Cost of available building materials and labor.*

LAYOUT

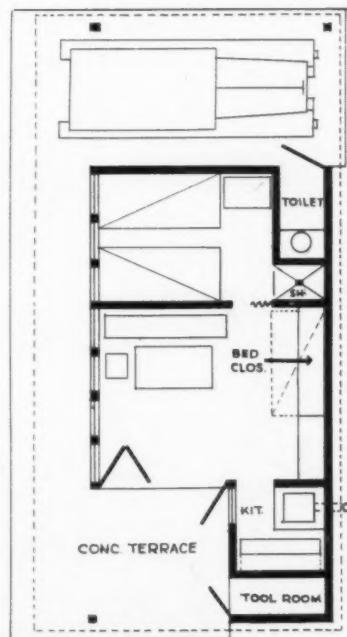
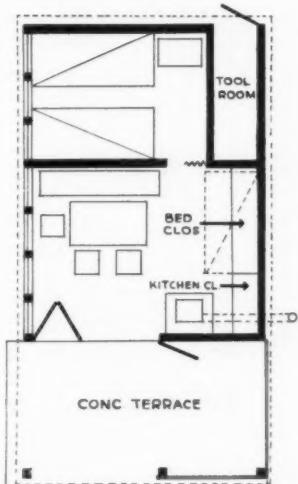
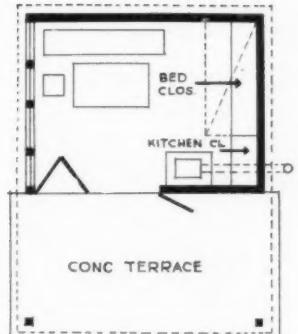
ELEMENTS:

1. *A shelter against heat, cold, rain, and insects.*
2. *A place for sunbath.*
3. *A place to prepare the food.*
4. *A place to eat.*
5. *A place to sleep.*
6. *A place to dress.*
7. *A place to wash.*
8. *Sanitary accommodations.*
9. *Storage space for baggage.*
10. *Storage space for food supplies.*
11. *Parking space for cars.*

The layout should be made with a minimum of means. The space used by day should be convertible for use by night in order to reduce the cost of the structure. Accommodations for guests should be provided. Privacy at night should be insured the owner.

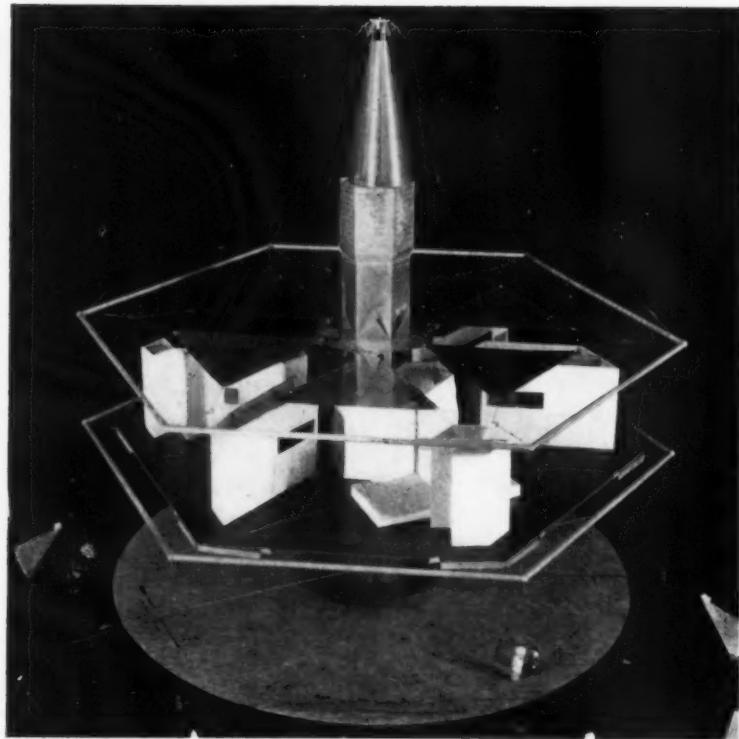
A minimum of fifty square feet of floor space and five hundred cubic feet of air space for each occupant exclusive of space for storage of clothes and sanitary purpose is recommended.

Provision should be made for parking of cars. The simplest solution is an open parking space or the use of canvas covers. If the house is located on a slope or is raised from the ground, a covered parking space can be provided under the house.



10'
New units can easily be added to this week-end house.

RICHARD WEBER, Architect



A rational construction erected with a minimum of labor. Model for the Dymaxion House designed by R. BUCKMINSTER FULLER.

Partially assembled structure showing mast and six radial tension cables carrying entire weight; hexagonal arrangement of horizontal tubular compression struts, flexibly joined; metallic tension webbing floor supports uncovered on top deck and covered on lower deck by pneumatic duralumin bladders topped off by black bakelite deck; breathing louvres at masthead and translucent partition walls.



Finished structure showing duralumin awning, central mast with elevator and vertical grouping of conduits for heat, light, air, disposal and water; translucent non-breakable panes inclosing vacuums for outer walls; translucent ceilings; a bedroom indirectly flood-lit with one triangular metallic window shutter partially drawn; parking space under the house; the whole structure suspended from the mast.

CONSTRUCTION

The construction should be governed by:

1. *Specific function.*

The structure should shed the rainwater easily, should admit a maximum of sunlight and fresh air, and should provide maximum visibility from the inside.

The construction should therefore provide a maximum of window space and openings screened against insects and protected from rain. The construction should insure maximum flexibility of the plan for the purpose of full utilization of the space by day and by night. (Use of folding partitions, dividing curtains, etc.) It should easily expand to take care of guests. Additional space can be provided by means of screened porches, utilization of roof for sleeping porches or temporary tents.

2. *Initial cost.*

The initial cost should be as small as possible without the use of inferior construction or material. (The construction should be substantial in order to obtain easy loans.) The structure should therefore be erected without expensive labor and in the shortest possible time. The erection should be reduced to easy assembly of ready-made and easily handled units by the owner or by unskilled local labor.

3. *Cost of maintenance and cleaning.*

Week-end houses will be exposed to more severe weather conditions than will the city house. They must be shut up for long periods without care. When opened they must be ready for immediate use despite the neglect to which they inevitably will be subjected.

Screens, awnings, tent extensions, and flies should be stored away during the unoccupied season with maximum ease. Openings should be protected with shutters and the structure made inaccessible. The house should be easily cleaned. All inaccessible dirt corners should be avoided.

4. *Climatic conditions and local codes.*

MATERIAL

1. All materials used for the structure and the equipment should be manufactured and transported with minimum cost.
2. They should be easily erected, replaced or repaired.
3. They should be moderate in first cost, but durable enough to go along for years without painting or appreciable repairs and replacement.
4. They should be proof against the attack of fungi, insects and rats.
5. They should be impervious to water and resistant to fire and atmospheric conditions (corrosive action of salt air at seashores). All metals should be non-corrosive.
6. All surfaces should be easily cleaned.
7. The number and quantity of materials used should be reduced to a minimum for the sake of economy and visual unity.

The following is an extract taken from a recent publication of the United States Department of Agriculture entitled "Termites in Buildings," Leaflet No. 31:

"Proper construction when building is essential and the following suggestions will assist in preventing damage and loss from termite activities in frame construction.



Courtesy the Patent Scaffolding Co., New York

. . . easy assembly of ready-made and easily handled units.



Bonney



Bonney

Maximum result with a minimum of means. The economic principles of airplane construction should be applied to the week-end house. Rational utilization of light, strong materials.

STOCKHOLM EXPOSITION 1930

"Wood or fiber products, when an approved preservative has not been forced into the product, shall not be placed in the earth or within 18 inches thereof, excepting wood columns or posts over a concrete floor, which columns shall be provided with noncorroding metal or concrete base plates or footings 6 inches above the floor. This applies to steps, which shall be laid over a concrete base, projecting at least 6 inches beyond the supports of the steps.

"Timber to be used in contact with the earth shall be thoroughly impregnated by a standard pressure process with coal-tar creosote or other equivalent preservative. Timber should be completely cut to proper dimensions before treatment, whenever possible, but when cutting after treatment is unavoidable all cut surfaces shall be thoroughly coated with coal-tar, creosote or other equivalent preservative.

"Masonry foundations and footings shall be laid in Portland-cement mortar. Foundations built up of masonry units, whether hollow or solid, shall be capped below woodwork with at least 1 inch of Portland-cement mortar, or mortar and slate, or solid or joined noncorroding metal, or other equally artificial seal.

"In the case of frame buildings a metal termite shield shall be provided, continuing completely around the top of the masonry foundation, including all pillars, supports, and piping, below the woodwork of the building, on both the inside and outside surfaces. Such a shield may be formed of a strip of noncorroding metal (such as copper, zinc, or an alloy composed of 28 per cent of copper, 67 per cent of nickel, and 5 per cent of iron, manganese, and silicon), firmly inserted in the surface of the masonry, or between the foundation and the wood, with the projecting edge bent downward at an angle of 45° and extending horizontally at least 2 inches from the face of the foundation. In masonry buildings this shield can be inset in the masonry at a height at least 18 inches above the ground.

"Floor sleepers or joists embedded in masonry or concrete, or laid on concrete which is in contact with the earth, shall be impregnated with an approved preservative.

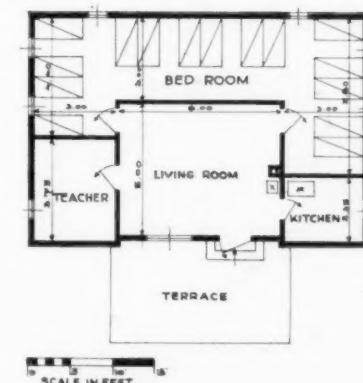
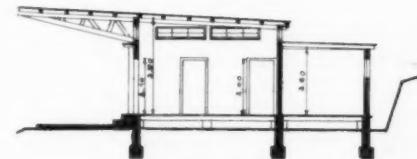
"Expansion joists between concrete floor and wall shall be filled with liquid asphaltum and the right-angle joint covered with a sanitary cement mortar or Portland cement concrete finish of an arc of at least 2 inches in length.

"The ends of wooden beams or girders entering masonry or concrete shall not be sealed in, but shall be provided with boxes affording an air space at the end of the piece of not less than 1 inch at side of member, unless the ends of such timbers are impregnated with coal-tar creosote or other approved preservative.

"Where there are spaces under floors near the earth they shall be excavated so that there will be no earth within 18 inches of the wood, and they shall be provided with cross-ventilation. Such ventilating openings shall be proportioned on the basis of 2 square feet for each 25 lineal feet of exterior wall, except that such openings need not be placed in front of such building. Each opening shall be provided with 20-mesh non-corroding metal screening, including windows and attics.

"Where timber is used in roofs of the flat type, the roof shall, unless protected on the weather side with a waterproof covering, have a slope and run-off sufficient to provide proper drainage.

"All wooden forms on foundations shall be removed from masonry work within 15 days; grading stakes shall be removed before laying concrete floors."



Week-end camp in the mountains.

KARL MEINHARDT, Architect

CONTROL OF TEMPERATURE AND VENTILATION

Control of temperature and proper ventilation should be insured with the simplest possible means. All materials used for roof, walls and partitions should have high insulating properties. Awnings, flaps and flies can be used as protection against sun and rain. The structure should be located on the site in such a way that the prevailing breezes can be utilized. Flaps and movable canvas screens can be used to catch the wind and lead it through the house. The design should insure natural cross-ventilation by utilization of the inevitable air currents.

PROTECTION AGAINST INSECTS

The structure should be thoroughly screened. It is good practice to have a screened space within the kitchen for the storage of imperishable food. Screens should have at least 16 meshes to the inch to keep mosquitoes out.

EQUIPMENT

A minimum of equipment should be used. It should be easily transported and stored away, light and collapsible, and able to withstand hard use. For sleeping accommodations there should be cots or bunks usable for seats in the daytime, or wall beds or roll-away beds that can be placed in wall closets. Portable bath tubs, camp stoves, heating stoves, ice-boxes, camp chairs and tables will serve the specific purpose. Lighting equipment will depend on the local conditions.

WATER SUPPLY

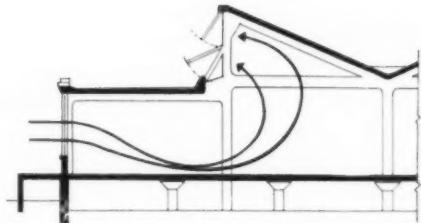
An adequate pure water supply is one of the most important requirements of the week-end house. An average of about 50 gallons per person per day is necessary for drinking and sanitary purposes if flush toilets, showers, and bath tubs are used. Less water is necessary if latrines are used. Showers require about 20 gallons of water per person per day, bath tubs about 10 gallons per person per day, flush toilets about 10 gallons per person per day, and for drinking and culinary purposes about 5 gallons per person per day.

The water supply may be obtained from three sources: rain water, ground water, and surface water. The method of supply will depend on the local conditions.

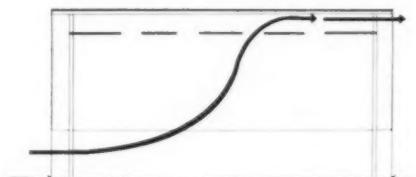
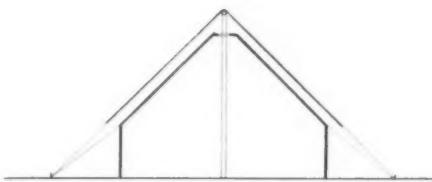
It is important to ascertain whether the water is safe for use. An analysis should be made each year before the season if the water supply is not chemically treated. It is possible to install a simple type of hydro-chlorinating system at low cost.

SEWAGE DISPOSAL

The local conditions of topography, geology, soil texture, location with reference to water supply, volume of sewage and other factors determine in each case the method of disposal and the location and size of disposal plant. The first requirement for a sewage disposal plant is a location where it cannot be a source of contamination to the water supply. This means that it should be, if possible, located entirely outside the catchment area which furnishes the source of surface or ground water supply, due consideration being given to the fact that a well or spring supply may receive its water from an area partly outside the limits of the superficial watershed. If the point of disposal must be upon this catchment area the disposal



Natural ventilation of industrial plant.



Natural ventilation of tent. Note the insulating space between tent and fly.



Gallaway
Revolving bath house with provision for sunbath.

plant should, as far as practicable, be located at as great a distance as possible from the source of the water supply, away from the lines of possible drainage toward such sources and at an elevation below the water level of this source. If the week-end house is furnished with a general water supply system and plumbing fixtures such as sinks, washbasins, and flush toilets a considerable amount of sewage will be created and the choice of location and method will involve additional factors, not only of a sanitary nature such as the protection of bathing beaches, use of a stream in which the sewage may be discharged and the possibility of creating a nuisance, but also a physical nature, such as the topography and the character of the soil.

The topography will affect such questions as whether the sewage will flow by gravity or must be pumped, what size and grades the sewers shall have, what possible site for sewage disposal is available to collect the sewage economically, and what type and proportions of structures are suited to the required degree of treatment of the sewage. The character of the soil will affect primarily the method of the disposal works, that is, whether by cesspool, subsurface irrigation field, sand filters, or otherwise.

If the week-end house is not provided with a general water supply system the amount of waste water from washing and cooking can be disposed of in a small cesspool roughly constructed of loose stone or timber and covered tightly to prevent fly and mosquito propagation. Wash water should not be thrown on the ground because the soap and suspended organic matter in it in time will become a breeding place for flies.

Where a general water supply system is not available the human excreta can be disposed of either by a dug privy, a removable container, or a chemical toilet. These toilets should be removed from the main structure taking into consideration prevailing winds and privacy. They should be amply ventilated, light, and easily cleaned, screened with metal wire or mosquito netting.

REFUSE DISPOSAL

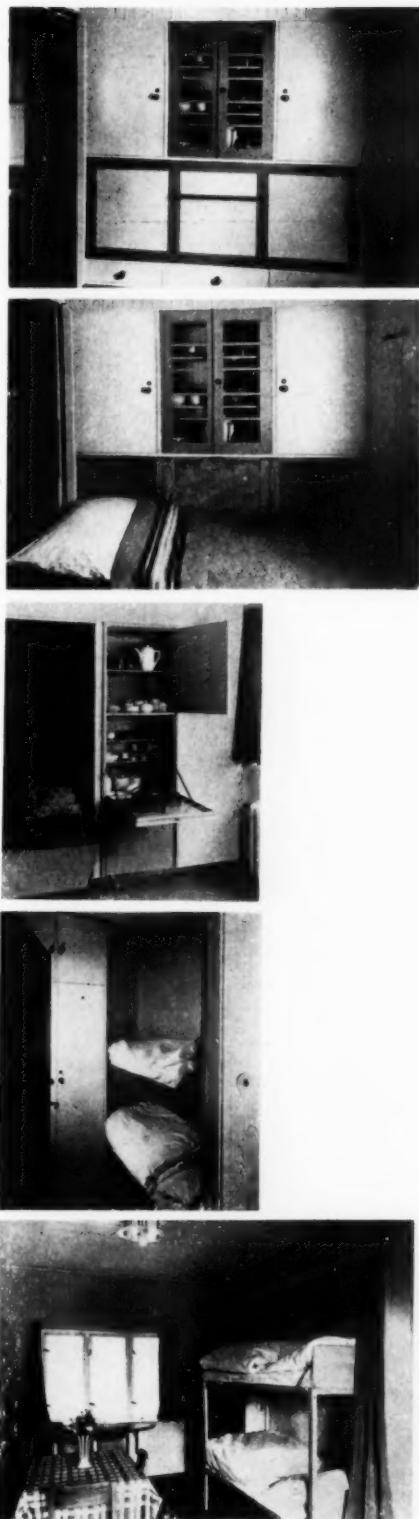
Most rubbish can be disposed of by burning. Incombustible rubbish should be buried. Garbage should be stored in such a way that odors are not produced and so that flies and vermin are not allowed to have access to the material. The garbage can should be located near the kitchen, placed on a rack or storage platform that will permit the ground in the immediate vicinity to be covered with lime to prevent spilled garbage from decomposing and attracting flies. The garbage cans should be constructed of substantial material and fitted with tight covers. Garbage should be disposed of by burning or burying. Economical small-size incinerators may be made of "salamanders." The incinerators should not be located near the house.

COLOR

Pigment color should be reduced to a minimum on account of the cost of maintenance.

The colors should be organized:

1. *To increase the cheerfulness, comfort and the appeal of the structure* (counterpoint to the gray drabness of the city). Use of warm and cool colors in relation to the sunlight. Light and heat reflecting surfaces.
2. *To increase the ease and safety of operation.* Primary colors are easily recognized. Doors, stairs, equipment, etc., should be clearly indicated in space.



Interior views of the week-end house shown on page 187. Note the use of wall bed.

ERNST PIETRUSKY, Architect

3. To increase the ease of maintenance and cleaning and to facilitate the clean appearance of the structure. Enclosed spaces should have colors that will make the presence of dirt easily detected. Exterior parts that are unavoidably soiled should be dark.
4. To increase the visual unity. The number of colors should be limited to a minimum.

PLASTIC UNITY WITH SURROUNDINGS

Primary forms and colors are right in any surroundings. The plastic unity of the structure with the natural setting is determined by the clear statement of the specific problem and by the solution of this problem with rational human tools.

Any attempt to conceal the nature of the structure as a human creation through a superficial imitation of "natural" forms (fake log cabins), or a *sentimental*—and often expensive—use of local materials and building forms is as misplaced as the *intrusion* on nature by representative forms. The week-end house is no intrusion. It is the setting for a life in friendly contact with nature. A structure that is determined by unselfish human relations to sun, soil and surroundings, and by the use of human industrial methods is a natural circumstance, as native as the nests of birds and insects, the bridge, the highway and the sailboat.

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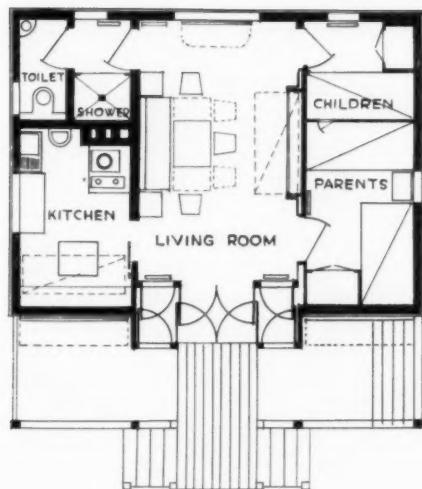
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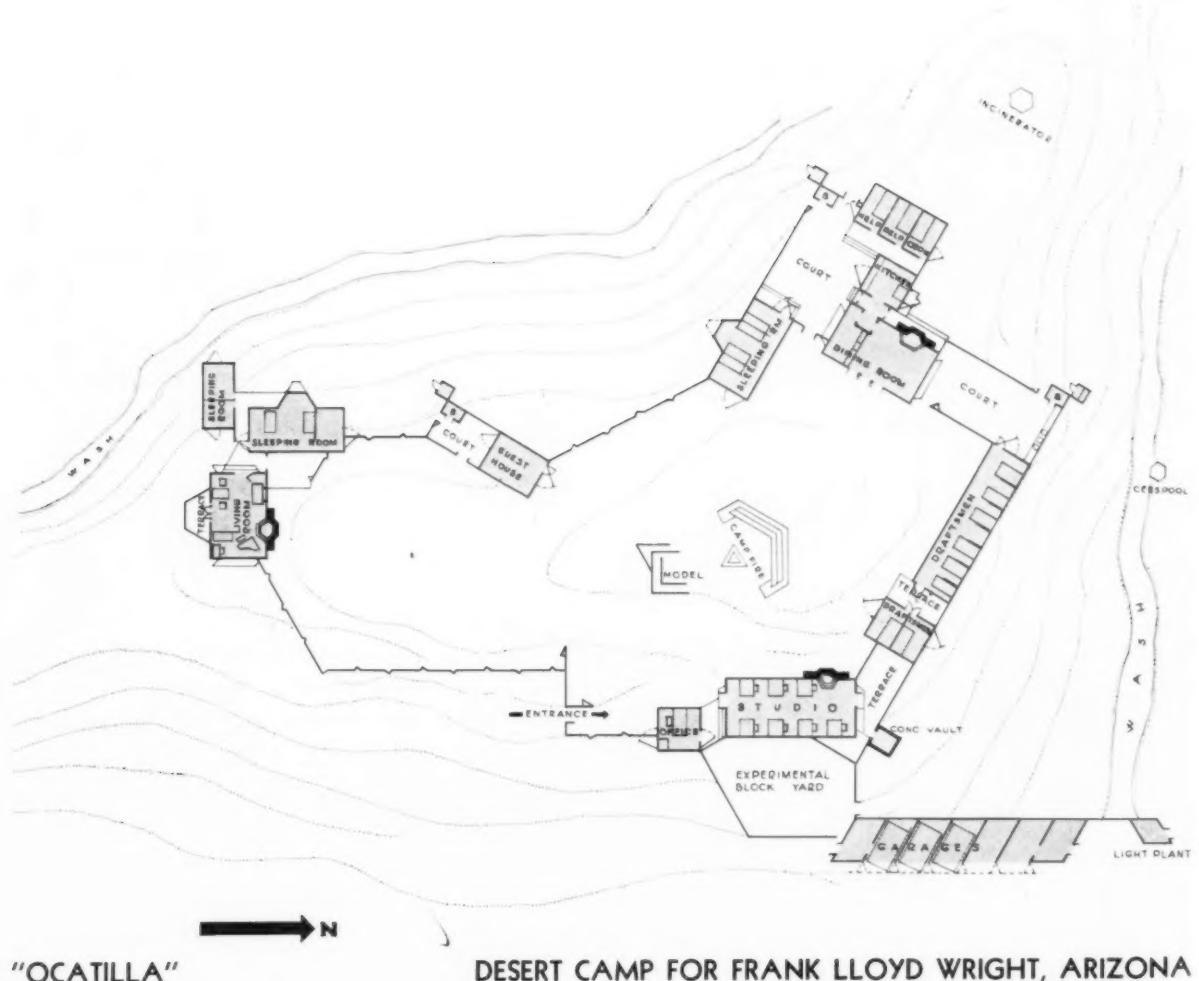


Pacific and Atlantic



WEEK-END HOUSES IN SILESIA
ERNST PIETRUSKY, Architect

The group is built by a government association and furnished with household utensils. The lower hall in the administration building serves as meeting hall for social purposes. Gas, water, electricity. Brick foundations. Wooden framework with bricks. The weather sides, exterior corkslabs lined with planks. Colored roofing felt. Bright colors: vermilion, caput mortum; windows painted white, doors green.



DESERT CAMP FOR FRANK LLOYD WRIGHT
ARIZONA
FRANK LLOYD WRIGHT, ARCHITECT

PURPOSE

Dwelling, office, and drafting room for the architect during the preparation of plans for a desert development.

LAYOUT

Dwelling, guest house, office, drafting room, bunk-shelters for the draftsmen, dining room, kitchen, cook's shelter, and shelter for cars are grouped together about a low outcropping of rock that rises between, giving privacy to all. Each group has its own bath and privy. The buildings are connected with a low box-board wall inclosing the stony hill-crown as a court.

CONSTRUCTION

Box-boards $11\frac{1}{2}$ " wide, battens $1\frac{3}{4} \times \frac{7}{8}$ ", 10 oz. canvas 4'-0" wide put together with nails, screws, hinges, and ship cord on 4'-0" units. The canvas awning-windows and doors may be shut against the dust or may be open to deflect the desert breeze in to the interiors. Cross ventilation is everywhere at the floor-levels to be used in the heat of the day. The long side of the canvas slopes lies to the sun to aid in warming the interiors in the winter. This is to have an additional cover of canvas, ventilation between, in summer, if occupied then. The translucent canvas tops afford generous diffusion of light within.

EQUIPMENT

Air tight sheet-iron stoves in each shelter keep the inside warm in winter after sundown. Lighting by a KOHLER plant.

COLOR

The box-boards are painted dry-rose. The canvas triangles of the gables are scarlet. The canvas is white.

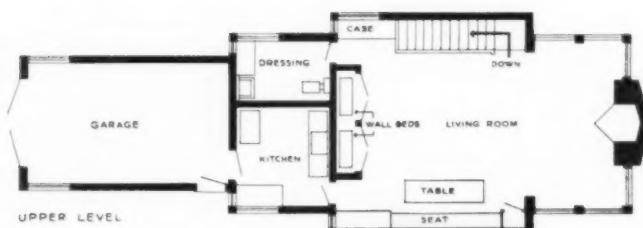
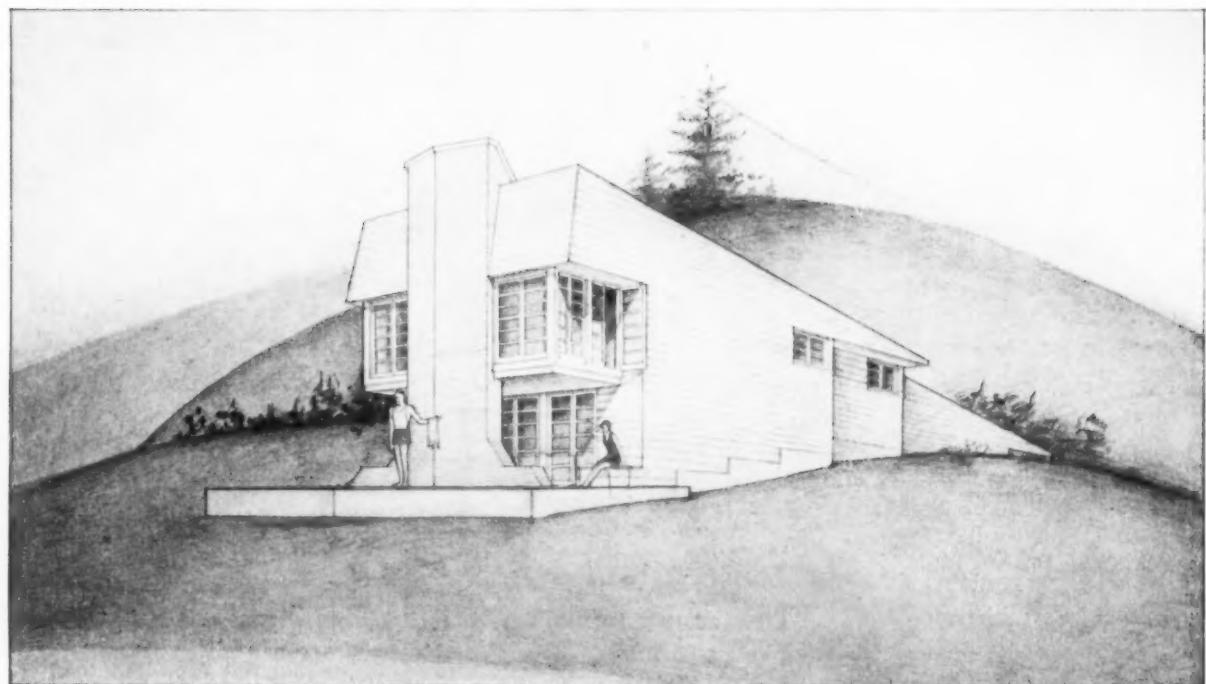




DESERT CAMP, ARIZONA
FRANK LLOYD WRIGHT,
Architect



The canvas awning-windows and doors may be shut against the dust or may be open to deflect the desert breeze into the interiors.



BARRY BYRNE, ARCHITECT
DESIGN FOR OWN DUNE COTTAGE
LONG BEACH, INDIANA

Exterior: Wide bevel siding, sawnface, over studs sheathed with celotex. Studs exposed on interior. Wood surfaces stained light sand color. Sash orange red. Brick light orange red.

THE FABRICATED STRUCTURAL STEEL

in this tall banking and office building, consisting principally of columns, beams, trusses, and miscellaneous members was produced by



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NOTES IN BRIEF

and

Architects' Announcements

CALENDAR OF EVENTS GENERAL ANNOUNCEMENTS

August "Man and Machines," an exhibit representing western industrial civilization, at Museums of the Peaceful Arts, 220 East 42nd Street, New York City.

August, September Exhibition of modern Architecture and Industrial Arts at Stockholm, Sweden.

August The German *Werkbund* Exhibition at the Grand Palais in Paris. Exhibition of modern furniture, steel apartment house layouts, new construction, arranged by Prof. Walter Gropius of Berlin.

August-October International Hygienic Exhibition at Dresden, Germany. Buildings include a model hospital and a model housing project.

Aug. 4-9 International Exposition of American Import Trade, Grand Central Palace, New York.

Aug. 12-21 Study Tour of the International Housing Association in Denmark, Sweden and Norway.

Sept. 7-14 Twelfth International Congress of Architects, Budapest, Hungary.

Sept. 8-13 A course of lectures on *Fundamentals of Architecture* for members of Illuminating Engineering Society, conducted by the School of Architecture, Columbia University, N. Y.

Oct. 1 The Committee of Twenty on Street and Outdoor Cleanliness, 2 East 103rd Street, New York City, have extended their prize contest for the design of a Litter Basket for New York City till October 1. First Prize \$500.

October The Department of Architecture of the University of New York will begin a series of lectures on "Promoting and Financing Building Projects."

Oct. 7-10 Annual convention of the Illuminating Engineering Society, Hotel John Marshall, Richmond, Va.

Oct. 8-12 Sixth National Conference of Church Architecture, Cleveland, Ohio.

Nov. 18-29 Art Exhibition, Royal Institute of British Architects, London (9, Conduit Street).

1930 Entries in the competition for the most beautiful bridge in North America are invited. Information can be had from F. H. Frankland, c/o Bridge Committee, American Institute of Steel Construction, Inc., 200 Madison Ave., New York City.

COLIN J. ROBB, architect, Timpany House, Ballynahinch, Co. Down, Ireland, desires to get in touch with manufacturers who are makers of church bells, lightning rods, theatrical lighting apparatus, hospital fittings, stable and kennel fittings, church metal work, stained glass, general cinema and theatrical fittings, church and cinema organs.

MILTON M. FRIEDMAN, architect, announces the removal of his offices to Suite 635 Rives-Strong Building, 112 West Ninth Street, Los Angeles, Calif.

DAVID ELMS GRAHAM Co., architect and engineer, formerly located at 3107 Beverly Boulevard, Los Angeles, has moved to 1144 South Grand Avenue, Los Angeles.

FREDERICK S. STOTT, architect, announces a change of address from c/o Marsh, Smith & Powell, Architects' Building, Los Angeles, Calif., to 1180 Oak Grove Drive, Los Angeles, Calif.

VAN WART AND WEIN, architects, announce the removal of their office to larger quarters in the building where they are located at present, 347 Madison Avenue, New York City. New samples and up-to-date catalogues are requested.

CARL E. HOWELL

Word was received June 17, 1930, of the death at Monrovia, Calif., of Carl E. Howell of the firm of Howell & Thomas, architects. Mr. Howell had been in failing health for more than two years and had given up active work in Cleveland for the climate of New Mexico and California. He had been in California only two months.

Mr. Howell was born in Columbus in 1879, educated at Ohio State University and at the University of Pennsylvania. While at Pennsylvania, he won several scholarships. He was also awarded the John Stewardson foreign traveling scholarship in architecture and after his return entered practice with J. W. Thomas in Columbus in 1908. He was a member of the American Institute of Architects and the American Academy of Rome.

The work of Howell and Thomas includes the library and auditorium buildings for Ohio University at Athens, Ohio; East High School of Columbus, Ohio; high schools in Lakewood and Shaker Heights, Ohio; churches at Columbus, Canton and Oxford, Ohio; Y. W. C. A. buildings at Cleveland and Zanesville. They have also specialized in the planning and designing of newspaper buildings.

"Man and Machines," an exhibit of discoveries, inventions and mechanical devices depicting the rise of western industrial civilization, will be opened this month at the Museums of the Peaceful Arts, 220 East Forty-second Street, New York City.

One hundred industrial firms and individuals have been engaged for the last five months in preparing the exhibit. It will demonstrate the changes in economic and social life caused by the industrial revolution from the earliest times to the present. The exhibit is patterned after the one in the Deutsches Museum, Munich, which is visited each year by more than 1,000,000 persons. The collection will be strictly American.

FOREIGN TRAVEL

Eight European nations will be visited by students of the School of Architecture of the University of Southern California, who will go on the annual "vagabond" summer tour. The trip will be conducted under the direction of Dean Arthur C. Weatherhead and Prof. C. Raimond Johnson of the architectural faculty.

The latest trend in modern architecture will be studied by the students in various cities and countries, emphasis being placed on American work as contrasted with that of other nations.

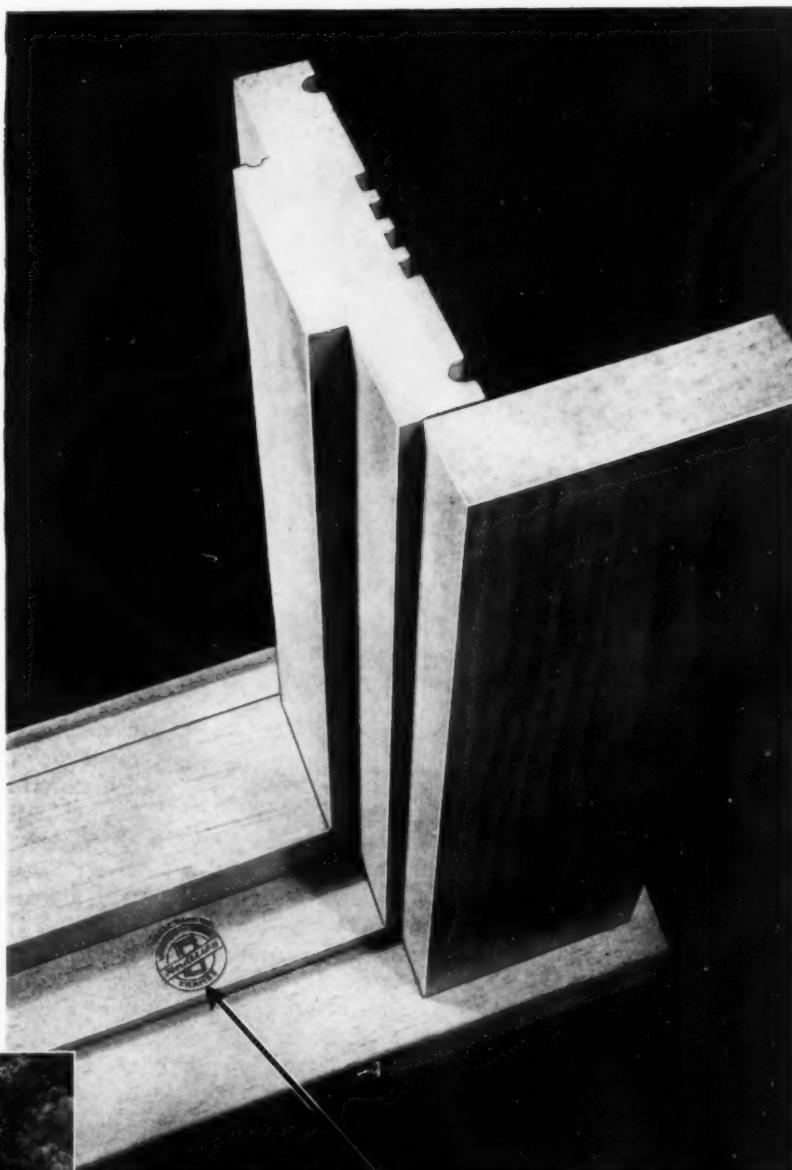
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PARIS PRIZE

Announcement is made of the award of the 23rd Paris Prize in Architecture to L. B. Anderson, Massachusetts Institute of Technology.

The other competitors were:

George Brennan, Massachusetts Institute of Technology, placed second.

R. A. Weppner, Catholic University, placed third.

C. C. Braun, University of Illinois, placed fourth.

E. T. Pairo, Catholic University, placed fifth.

This prize has a stipend of \$3,600. It is a national competition open to all citizens of the United States under 27 years of age, and enables the winner to study abroad for two and one-half years. It also carries the privilege of admission to the first class at the Ecole des Beaux-Arts in Paris without entrance examinations by a decree of the Minister of Public Instruction and Fine Arts of France.

The competition consists of three progressive eliminatory competitions. The first competition required a completely rendered drawing in twelve consecutive hours for a "Peace Memorial"; the second, of 24 hours' duration, required a rendered plan for "A Municipal Playground and Athletic Center for a Town of Moderate Size"; and the final competition required a sketch in 36 hours, of a solution for the problem "National School of Fine Arts." The competitors in the final stage were given ten weeks to develop and execute the drawings for their original sketched solution.

A CORRECTION

In the May issue photographs were shown of the Fox Theatre, Atlanta, Ga., and the work incorrectly attributed to John Eberson, architect. Marye, Alyn and Vinour were the architects for the project.

MODEL HOMES FOR PHILIPPINE SOLDIERS

In order to improve the housing conditions of the native soldiers under his command and to enable the post doctors to exercise direct medical and sanitary supervision over their living conditions, General Frank C. Bolles has started the erection of a "model barrio" on the post, the aim of which is to insure maximum comfort and health for the soldier and his family and to bring them into contact with modern methods of sanitation. Another object is to give an example of proper living conditions to other Filipinos. The houses which are being erected, although cheap, are well built, will not require constant repair, and are arranged so that the health conditions of the native soldier and his family will be improved in the hope of stamping out disease. Each soldier occupying quarters with his family pays a monthly rent of two pesos (\$1.00), and in addition works one afternoon a week as his contribution to the barrio. All money received goes to the barrio fund which is used for the betterment of the barrio.

The houses are arranged in blocks of four double houses to the block. Each dwelling is built off the ground on wooden posts set in concrete blocks. The house is twenty-eight feet long and twenty-four feet wide. It has a porch in front six feet wide and a kitchen in back of the same width. The middle room, which may be partitioned to form two rooms, is sixteen feet by twelve feet. The frame of the house is wood, the side

walls are sawali, and the dividing wall is of wood. The roof is of galvanized iron. When finished the houses are painted green with white trimmings. In the middle of every block there is a community bath built of concrete with galvanized iron roof and walls, containing four toilets, two showers, and a platform for washing clothes. This model village also enjoys the benefit of an incinerator as an additional help toward improved sanitation.

The recreation block is in the middle of the barrio. The center of this block is a public park and surrounding it will be the church, the school and the store. Six hundred families will eventually be housed in this barrio.

FIRE-RESISTING CONSTRUCTION

The report of the Building Code Committee, organized by The Merchants' Association to draft a new Building Code for the City of New York, embodies a proposed new code governing the use of fire-resistive materials.

It is contemplated that when the whole new building code is completed, it will make provision for a new type of construction to be known as the partially protected or intermediate type, which, while not as resistive to fire as the present fireproof construction, will eliminate the hazards existing today in non-fireproof six-story apartments. This will be accomplished by using a lighter steel frame, a thin slab, wire lath and plaster partition and increasing the allowable height of the fire retarded building above the six stories allowed to non-fireproof structures today, to offset to some extent the increased cost.

TRAFFIC CONGESTION

Dr. John A. Harriss, president of the Broadway Association and national traffic expert, in speaking on the rapid growth of the automobile in the past fifteen years, declares that there are 29,000,000 automobiles in the United States and Canada and that \$1,000,000 a working day is lost by street congestion in New York. This is about \$300,000,000 a year, based on time lost by those who are compelled to use the thoroughfares.

"What does this mean in the future? If we continue to build office skyscrapers, big apartment houses or construction operations that go up 10 or 15 stories, and do not provide adequate means of taking care of the street traffic then we must either close up the city or eliminate the automobile. At the present time 4,800,000 persons over seven years of age use the streets daily.

"The solution in my opinion lies in erecting multiple highways on say Ninth and Second or Third avenues from six to twelve decks or levels in height. These would extend from the lower end of the city to the upper end and would be approached by ramps at various points along the line with corresponding ramps for means of exit.

"These levels would provide one-way thoroughfares for various classes of vehicles. At the lowest levels there would be two avenues for trucks, then, as we ascend, two for buses, two for taxis, two for pleasure cars, two for storage and parking, and two for fire apparatus and other emergency use, each class having separate boulevards for northbound and for southbound travel. Six, of these levels could be put in operation as a starter on both sides of the city."

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From NEW YORK

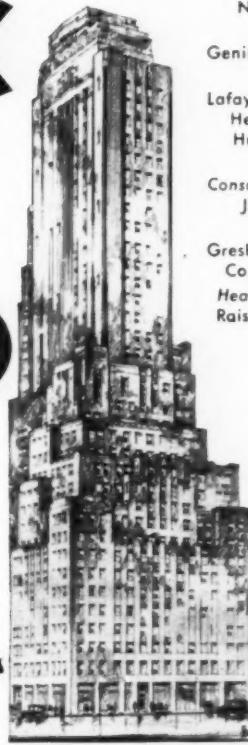
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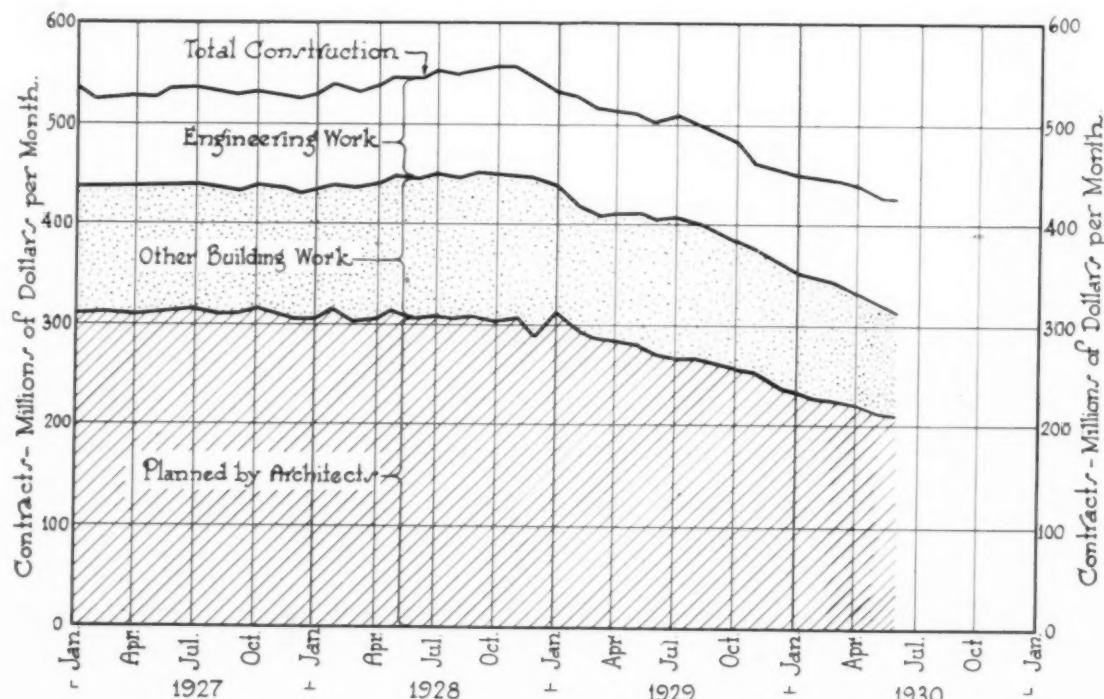
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CONSTRUCTION STATISTICS

From the records of F. W. DODGE CORPORATION, Statistical Division. The figures cover the 37 states east of the Rocky Mountains and represent about 91 per cent. of the country's construction volume. They include projects amounting to \$5,000 and up.

First Half, 1930

	TOTAL CONTRACTS		WORK PLANNED BY ARCHITECTS		
	Number of Projects	Valuation	Number of Projects	Valuation	Per Cent. of Total
Commercial Buildings.....	12,243	\$409,618,300	4,666	\$327,116,900	80
Industrial Buildings.....	2,800	323,403,600	935	86,098,200	27
Educational Buildings.....	2,338	196,563,400	1,905	189,524,100	96
Hospitals & Institutions.....	589	95,224,200	453	87,631,000	92
Public Buildings.....	689	62,322,300	430	50,574,100	81
Religious & Memorial Buildings.....	1,054	56,224,900	742	52,366,100	93
Social & Recreational Projects.....	1,317	66,505,300	808	58,013,600	87
Apartments & Hotels.....	2,858	196,445,000	1,606	165,986,000	84
One & Two Family Houses.....	36,952	382,967,600	9,025	172,712,500	45
 Total Building.....	60,840	\$1,789,274,600	20,570	\$1,190,022,500	67
Public Works & Utilities.....	10,104	848,738,700	138	21,936,800	3
 Total Construction.....	70,944	\$2,638,013,300	20,708	\$1,211,959,300	46
Total Construction, 1st half, 1929	92,395	\$3,015,546,800	27,037	\$1,536,834,500	51



General Trend of Building and Engineering Construction

COUNTERS IN INDUSTRIAL PROGRESS



A one camel-power pump in Morocco

Perfectly content to spend his life traveling an inexorable circle, the camel here typifies the country which supports him. The centuries have left no mark mechanically on the sandy wastes known as Morocco, the land of desert warfare and religious fervor.

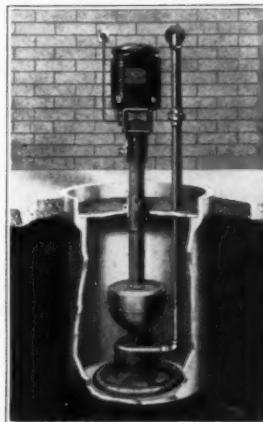
Water is elevated in the chain of earthen pots operated by the crude wooden device that is perhaps best described as a forerunner of a pair of bevel gears. Contrast this with the simple and efficient pumps we use today—equipment like the Penberthy Automatic Electric Sump Pump and Cellar Drainer, which are thoroughly automatic, fully dependable and have low operating costs.

Here indeed are the opposite ends of the march of progress.

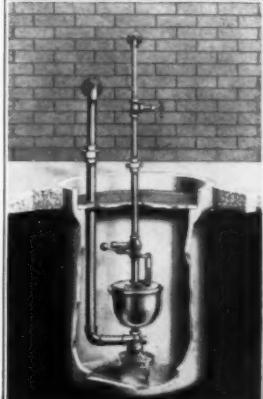
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Central Park West, New
York City, Margon &
Holder, Architects, Elkay
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A REVIEW OF CATALOGUES

BATHROOM ACCESSORIES

"All Tile" bathroom accessories to match the surrounding wall tile. Combination fixtures for hotels and apartments; special designs for the modern bathroom. Particulars of size, finish and style. The Mosaic Tile Company, Zanesville, Ohio. 8½ x 11 in. 8 pp. Ill.

TILE, CLAY

Natco double shell load bearing tile, for stuccoed exterior walls or brick and stone faced walls. Table of mortar required for 100 sq. ft. of wall. Detail drawings. 6 pp. folder. 8½ x 11 in. Ill. Also, 4-page folder on Unibacker tile, for load bearing curtain and closure walls. National Fireproofing Corporation, Fulton Bldg., Pittsburgh, Pa.

BUSS-WA

Copper bar system for power and light distribution. Description of Buss-Wa units. Installation cost. Provisions and requirements. Actual installations. Typical riser diagram and wiring schedule. Special uses in various important fields. Advantages. The Trumbull Electric Mfg. Co., Plainville, Conn. 8½ x 11 in. 16 pp. Ill.

SHINGLES, STAINED

"Cabot's Creosote Stained Shingles." The pictur-esque and economy of shingles. Approximate comparative costs of wall and roof construction. Wear resistance and covering capacity of wooden shingles. Fire resistance. Cabot's "Anteaks", white stained, old Virginia white, double-white and 42-year-old roof shingles. Heat-insulating and sound-deadening quilt. Collopkates. Specification. 8½ x 11 in. 16 pp. Ill. Also booklet on Cabot's Creosote Shingle and Wood Stains. Uses and directions for application. 3½ x 6 in. 16 pp. Ill. Folder on Cabot's creosote shingle and wood stains. Actual samples. Uses; applications; covering capacity. Samuel Cabot, Inc., 141 Milk St., Boston, Mass.

TERRA COTTA

Wall units of Atlantic terra cotta. Suitability for interior walls; economy; dimensions and description. Modeled wall units. Uses and supplementary uses. Colors; design. Durability and maintenance. Price. Specifications for the manufacture, furnishing and setting of Atlantic wall units. Detail drawings of various types. Detail drawings of types used in typical installations, including American Museum of Natural History, New York; Waldorf-Astoria Hotel, New York; Brooklyn State Hospital, L. I., New York. Atlantic Terra Cotta Co., 19 West 44th Street, New York City. 8½ x 11¼ in. 112 pp. (Loose-leaf.) Ill.

WOOD PRESERVATIVE

Tri-Treat, a wood preservative developed for E. L. Bruce Company by Dr. James W. Lawrie and Associates, Milwaukee, Wis. Prevents attack by termites and rot fungi. Technical report giving facts on Tri-Treat and the Tri-Treating process. Characteristics; tests. Where to use in sheltered and exposed construction. E. L. Bruce Co., Memphis, Tenn. 8½ x 11 in. 16 pp. Ill.



WHEN tested in piers, Brixment mortar approaches straight 3-to-1 portland cement mortar in strength.

And since Brixment is more plastic, is ground finer and hardens more slowly, it insures a better bond and more thorough bedding of the brick.

Ideal for foundation, load-bearing or parapet walls and even for tall, free-standing stacks. Louisville Cement Company, Incorporated, Louisville, Kentucky.

CEMENT MANUFACTURERS SINCE 1830

BRIXMENT

FOR MASONRY and STUCCO



A REVIEW OF CATALOGUES—Continued

PUMPS

Centrifugal pump selection chart bulletin No. 201. Multi-stage pumps for capacities up to 2000 G.P.M. and heads up to 2400 feet. Complete description, including cross sections with details and dimensions for each pump. Specifications. Features of design and construction. Typical installations. Goulds Pumps, Inc., Seneca Falls, N. Y. 8½ x 11 in. 32 pp. Ill.

STOVES

Chromium finish custom built ranges for fine homes. Blue-prints offered of gas ranges originated to fit special dimensions. Typical examples with particulars regarding ovens, dimensions, cooking surface, equipment and finish. Blue-prints and specifications. Typical installations. American Stove Company, 925 Chouteau Avenue, St. Louis, Mo. 8½ x 11 in. 24 pp. Ill.

PARTITIONS

"Office Planning Studies." Plans for single desk offices and two-desk offices. Swing and location of doors and types of doors. Access to corner offices. Half, full, one and one-half and two-bay units. Wing space, the center island and open center plans. The inside corner unit. Lighting arrangements. Ventilation. 85 8/16 x 11 1/4 in. 40 pp. Ill. Also, "Hauserman Movable Partitions, Types T & R." Special features and advantages. Standard details. Full information. The E. F. Hauserman Company, 6805 Grant Avenue, Cleveland, Ohio. 8½ x 11 in. 8 pp. Ill.

WINDOWS, STEEL

"Your Windows Through a Decorator's Eye." Color schemes and furnishings for living room, library, dining room, breakfast nook, sun porch, bedroom, child's room, bathroom, kitchen. Color chart. The windows and their drapery. Metal screens, storm windows and drapery brackets. Shade and drapery fixtures for Lupton casements. Casement doors. David Lupton's Sons Company, Allegheny Ave. and Tulip St., Philadelphia, Pa. 6½ x 9 1/4 in. 24 pp. Ill.

METAL DOORS AND TRIM

Dahlstrom Metallic Door Company graphically illustrate their 25 years' growth and progress in the manufacture of metal doors, trim, partitions, etc., in 10 pages of very detailed information.

The catalogue also contains extremely valuable information in regard to elevator hatch doors and enclosure details. Stock patterns of all products are profusely illustrated and described by number for convenience in selecting and specifying. 10 pp. Dahlstrom Metallic Door Company, Jamestown, N. Y. (This catalogue is in Sweet's for 1930.)

SOLID METAL WINDOWS AND METAL DOORS

Thirty-one pages tell the catalogue story of the Federal Steel Sash Company regarding their solid metal windows and metal doors. Among the many types shown, are to be found, particularly featured, their commercial and architectural projected windows. Pivoted and hinged windows of small dimensions and large ones requiring hand and power operating devices are illustrated. Four pages are devoted to industrial doors. 31 pp. Federal Steel Sash Co., Waukesha, Wis. (This catalogue is in Sweet's for 1930.)

(Continued on page 164)

333 North Michigan Avenue—Chicago
This striking building is one of the many important jobs for which the materials of construction were inspected and tested by Robert W. Hunt Company.

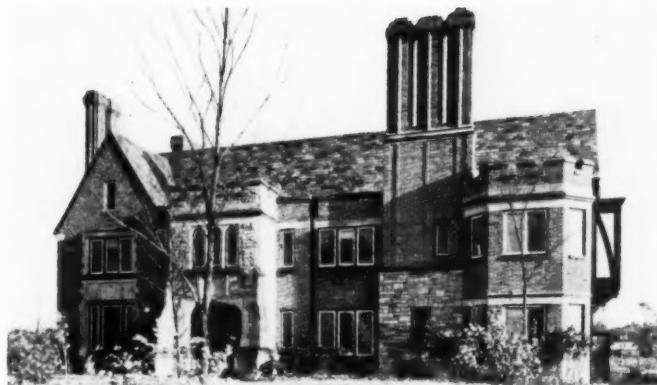
Holabird & Root were the architects and Hege-man-Harris Co. were the general contractors

See Sweet's A4

STEEL AT SHOP AND FIELD
CEMENT—CONCRETE
CONCRETE SUPERINTENDENCE

ROBERT W. HUNT COMPANY
ENGINEERS

Inspection . . . Tests
Insurance Exchange
CHICAGO
All Large Cities



In the residence of Mr. Percy N. Calvert, 18040 South Woodland Road, Shaker Heights, Cleveland, Ohio, eight telephone outlets provide for modern telephone convenience. Here the telephone wiring is carried in conduit built into the walls and floors. MONROE E. DEANE, Architect. THE H. W. BROWN & SON COMPANY, Builders, Cleveland.

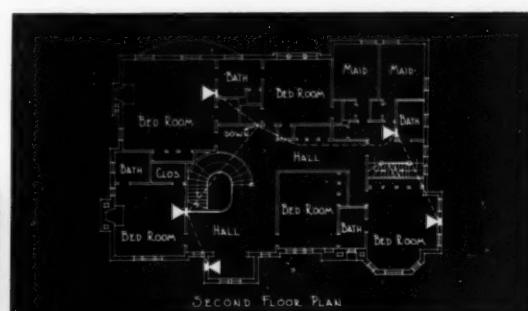
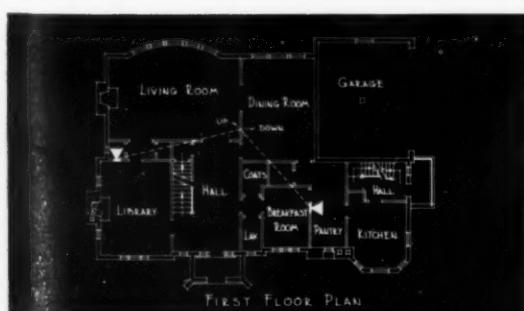
Flexibility is always Desirable in the Telephone arrangements of a Residence

IN PLANNING for the telephone arrangements of the houses they design, many architects include provision for more telephone outlets than the home owner may immediately require. This foresight insures a flexibility of service that often proves very desirable. When a residence is first occupied, telephones are needed in certain rooms. A change in the use of these or other rooms may involve the shifting of the telephone arrangements, and with outlets available at convenient locations, this rearrangement or expansion is easily accomplished.

Appropriate locations for telephone outlets can

be determined in conjunction with the home owner, the architect and a representative of the local Bell Company. Conduit for the telephone wiring is then specified, and built into the walls and floors during construction. This results in improved appearance, and guards against certain types of service interruptions.

You and your clients are most cordially invited to consult with representatives of the local Bell Company in planning for the telephone arrangements for new and remodeled houses. No charge is made. Just call the Business Office.



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A REVIEW OF CATALOGUES—Continued
REFRIGERATORS

All steel electric refrigerators for domestic, commercial, institutional and other installations are shown in great variety by the General Electric Company in ten pages. Very full description is given of all working parts and the principles of refrigeration and operation. Many illustrations are used to show various models and types. Full dimensions are given. Plans and suggestions are presented to illustrate the advantageous location of refrigerators. 10 pp. General Electric Company, Cleveland, Ohio. (This catalogue is in Sweet's for 1930.)

"MOVING FACTORS"

How a growing need is met for means to readily move and operate heavy and unwieldy things which must be moved in buildings, such as large doors, partitions, gates, portable walls, etc., is told by Allen & Drew in 34 pages. Solutions of problems in mobility are given not only for the usual and familiar requirements but for new and progressive purposes which distinctly aid the architect to plan the use of space with an economy and efficiency not hitherto thought possible. The electric motors and accessory devices to be used are explained for a large variety of typical cases and details of installation are shown. A perusal of this catalogue will suggest that a "fourth dimension" in building construction has been discovered. "Open Sesame" is the thought colorfully pictured on the catalogue cover and the text justifies the idea. 34 pp. Allen & Drew, 43-45 Brookford Street, Cambridge, Mass. (This catalogue is in Sweet's for 1930.)



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